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ABSTRACT

Application forms for the Basic Educational Opportunity Grant (BEOG) Program for 1974-1975 were compared to Internal Revenue Service (IRA) tax forms to determine the scope of applicants' misreporting and to identify categories of applicants who tend to misreport. A total of 70,063 tax forms and BEOG records from eligible and ineligible applicants were examined. It was found that while overall accuracy of reporting was high, variations in the level of accuracy occurred for eligible and ineligible applicants, and dependent and independent students. For every variable (income, taxes, and household size), ineligibles tended to be more accurate than eligibles. Eligible students with adjusted gross incomes below $4,000 were the most accurate reporters of taxes but were the least accurate reporters of adjusted gross income. Independent students were among the least accurate reporters of income but were the most accurate reporters of taxes. More than 87 percent of all eligibles were found to report household size accurately. The impact of substituting IRS-reported data for BEOG reported data in the eligibility formula was also considered. Appendices provide statistical findings and analyses, and detailed information on the study methodology, including a summary of computer programming activities. (SW)

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VALIDATION OF STUDENT AND PARENT REPORTED DATA ON THE BASIC GRANT APPLICATION FORM

FINAL REPORT

VOLUME III

INTERNAL REVENUE SERVICE COMPARISON STUDY

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November 19, 1976

Prepared for:

Division of Basic and State Student Grants
Office of Education
Department of Health, Education, and Welfare

Contract No. 300-75-0727

APPLIED MANAGEMENT SCIENCES

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APPENDIX Q: Ineligible Applicants: Impact on Eligibility Index by IRS Data Substituted for BEOG Data

1
INTRODUCTION

The Internal Revenue Service (IRS) Comparison component of the Basic Grant Validation study was one of three efforts designed to provide an estimate of the accuracy of information reported on Basic Grant applications and to develop procedures to monitor and control program abuse. The IRS Comparison study was designed to provide an estimate of the overall accuracy of income information reported by 1974-75 Basic Grant applicants. This component was comprised entirely of computerized statistical analyses which avoided identification of individual applicants. More than 100,000 BEOG applicant records were randomly selected for study. Of these, more than 70,000 were linked successfully with IRS records. This study complements the Institution Referral and Pre-established Criteria components in that it provides an estimate of the scope of misreporting for all BEOG applicants on three particular income data items, as opposed to providing estimates of the accuracy of applications that were selected systematically according to pre-established criteria or selected judgementally by financial aid officers.

The IRS comparison study is of considerable significance because of the weight that income and household size information carry in the formula used to determine the expected family contribution or eligibility index (EI). In addition to examining the accuracy of eligible applicants' income data, the IRS comparison study also allows for an estimate of the accuracy of data reproted by applicants who were determined to be ineligible.

This volume of the Final Report documents the IRS Comparison Study. Chapter 2 presents a methodological overview. The findings are presented in Chapter 3, and Appendix A contains the detailed methodology. Additional appendices describe the sample size of the matched group and present selected detailed analytic tables.

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METHODOLOGICAL OVERVIEW

The purpose of this chapter is to provide the reader with an overview of the study methodology so that the findings can be interpreted meaningfully. The methodology was comprised of two aspects - the analytic design that was developed to respond to the study objectives; and the operational procedures required to extract and link more than 100,000 BEOG and IRS records, and to implement the design. Appendix A contains the methodology presented in detailed chronological sequence. This chapter contains a summary of analytic and operational procedures.

2.1: SUMMARY OF ANALYTICAL PROCEDURES

The analytic design was initiated with the specification of the two overall objectives which defined the direction of the study:

1) To determine the extent to which information reported to Basic Grants is similar to, or at variance with, information reported on the Federal Income Tax return; and,

2) To identify specific categories of applicants which tend to misreport so that they can be monitored in future application years.

Once the objectives had been determined, it was possible to identify the dependent and independent variables and to determine the analytic techniques necessary to respond to the objectives.

The dependent variables were limited to items on the Basic Grant application and IRS forms 1040 and 1040A which were comparable. An examination of the 1974 BEOG application and the 1973 and 1974 IRS tax forms revealed that the following data items were comparable.[1/]

- Adjusted Gross Income
- Federal Income tax
- Household size/exemptions

The BEOG eligibility index calculated by substituting the above IRS data for the BEOG data was the fourth dependent variable.

As for the independent variables, there were three which responded to the first study objective (to determine the overall scope of misreporting). These three variables defined the major populations of interest and were used as stratification variables for sampling:

1. Dependency status:
   - Dependent upon parental financial support
   - Independent of parental financial support
2. Income level (adjusted gross income):
   - Less than $4,000
   - $4,000 to $6,999
   - $7,000 to $9,999
   - $10,000 to $12,499
   - $12,500 to $14,999
   - $15,000 to $17,999
   - $17,500 and above
3. Eligibility status:
   - Eligible
   - Ineligible

[1/] Only adusted gross income and exemptions are definitionally consistent between the Basic Grant and IRS forms. Taxes paid and household size are similar. The interested reader is referred to Appendix A for a discussion of the degree of consistency between the IRS and BEOG definitions.

Thus, the comparison between BEOG-reported and IRS-reported adjusted gross income, taxes paid, household size/exemptions and eligibility index for applicants at the above levels of income, dependency status, and eligibility was considered adequate to determine the overall scope of misreporting.

In order to determine which categories of applicants tend to misreport, another set of independent variables was selected from the remainder of data available on the 1974 Basic Grant data base and the IRS master file. The validation contractor and the Office of Education suggested the following data would reveal categories of applicants who differ in the rate of misreporting:

Variables from BEOG file

- Farm assets
- Business assets
- Veteran's benefits
- Social Security benefits
- Other nontaxable income
- Negative income
- Marital status
- Date of application
- Applicants failing income edits
- Applicants receiving assumed incomes
- Applicants who submitted a correction to income
- Number of transactions/corrections submitted
- Taxes paid
- Applicants failing taxes paid edits
- Applicants who submitted a correction to taxes paid
- Household size
- Applicants receiving assumed household size
- Applicants who submitted a correction to household size
- Applicants reporting household size equal to exemptions
- Applicants reporting household size greater than exemptions

- Number of exemptions
- Eligibility index

Variables from IRS file

- Filing status
- Date of filing

The population of primary interest in this study was comprised of applicants who had submitted a regular 1974-75 Basic Grant application (as opposed to a supplemental)[1/] and had received an eligibility index of 1200 or less, indicating that they were eligible to receive a Basic Grant award. It should be noted, however, that all applicants with eligible ratings do not necessarily receive awards because they may enroll in an institution that is ineligible to participate in the Basic Grant Program, or they may not enroll at all. The 1974-75 Basic Grant data base maintained by the Processing Contractor contained records for 667,179 applicants who had received eligibility indices of 1200 or less.

The second population of interest to this study consisted of 1974-75 applicants who had filed a regular application, and received an eligibility index greater than 1200, making them ineligible to receive a Basic Grant award. The Basic Grant data base included 422,809 such records. In addition, the data base also contained several thousand applicants who had not received eligibility indices due to failure of the applicant to meet citizenship or prior post-high requirements, or failure to complete the application. These records were not examined since many would result in an incomplete linkage with IRS due to missing data.

1/ Applicants who suffer from specific circumstances which severely affect their financial status are allowed to file a supplemental application and report an estimate of the current year's income instead of the prior year's actual income. Samples of these applicants' records were also compared with IRS data to determine the degree to which estimates are accurate. This study is discussed in Volume 2, Estimated Income Studies.

The total sample size required by the Office of Education was approximately 100,000. Because the parent social security number is requested (but not required) on the BEOG application, it was estimated that between 20 percent and 30 percent of the parent social security numbers would have been omitted on the application. Consequently, the total sample size was increased by approximately 30 percent to assure that social security numbers for 100,000 BEOG records would be available for accessing the IRS data.

The sample design that was implemented was a twelve-cell stratified random sample, and was used for selecting samples from both the eligible and ineligible populations. Exhibit 2.1 presents a graphic display of levels of income and dependency status which defined the twelve cells. Sample sizes for each cell, shown in Exhibit 2.2, were determined such that the sampling error was not greater than five percent at the 95 percent confidence interval. This was accomplished for cells containing large populations by applying the following formulation of the standard error for the binomial distribution:

$$r = 2\sqrt{\frac{pq}{n}}$$

where p = the proportion of error
q = 1-p
r = the absolute error
n = the sample size

For those cells containing 400 or less population members, the following formulation was used in order that the sample size be large enough to assure that the error would be no greater than .05 at the 95 percent confidence interval:

$$r = \sqrt{\frac{N - n}{nN}}$$

where r = the absolute error
N = the population size
n = the sample size

EXHIBIT 2.1: TWELVE-CELL SAMPLE DESIGN

INCOME \ DEPENDENCY STATUS	Dependent	Independent
Less than $4,000		
$4,000 to $6,999		
$7,000 to $9,999		
$10,000 to $12,499		
$12,500 to $14,999*		
$15,000 to $17,499		
$17,500 or more		

*$12,500 or more for independents.

EXHIBIT 2.2

POPULATION AND SAMPLE SIZES

Eligibles

Strata Code	Classification	Universe	Sample
1110	Eligible, $0-3,999 Dependent	187,085	31,181
1120	Eligible, $0-3,999 Independent	116,901	19,484
1210	Eligible, $4,000-6,999, Dependent	108,922	18,154
1220	Eligible, $4,000-6,999, Independent	22,105	3,684
1310	Eligible, $7,000-9,999, Dependent	110,954	18,493
1320	Eligible, $7,000-9,999, Independent	6,139	1,023
1410	Eligible, $10,000-12,499, Dependent	69,993	11,666
1420	Eligible, $10,000-12,499, Independent	503	503
1510	Eligible, $12,500-14,999, Dependent	32,542	5,424
1520	Eligible, $12,500 and over, Independent	67	67
1610	Eligible, $15,000-17,499, Dependent	9,412	1,569
1710	Eligible, $17,500 and over, Dependent	2,556	639
	Total	667,179	111,887

Ineligibles

Strata Code	Classification	Universe	Sample
2110	Non-Eligible, $0-3,999, Dependent	19,699	730
2120	Non-Eligible, $0-3,999, Independent	19,195	711
2210	Non-Eligible, $4,000-6,999, Dependent	19,179	711
2220	Non-Eligible, $4,000-6,999, Independent	18,468	684
2310	Non-Eligible, $7,000-9,999, Dependent	30,076	1,003
2320	Non-Eligible, $7,000-9,999, Independent	13,178	549
2410	Non-Eligible, $10,000-12,499, Dependent	47,133	1,572
2420	Non-Eligible, $10,000-12,499, Independent	7,748	517
2510	Non-Eligible, $12,500-14,999, Dependent	70,344	2,345
2520	Non-Eligible, $12,500 and over, Independent	7,794	520
2610	Non-Eligible, $15,000-17,499, Dependent	65,206	2,174
2710	Non-Eligible, $17,500 and over, Dependent	104,789	3,493
	Total	422,809	15,009

It should be noted that because the Office of Education specified that more than 100,000 eligibles be included, sampling error for this group was almost negligible.

Samples were selected by computer, utilizing a random start and a skip pattern equal to the ratio of the desired sample size to the population for each cell in the sample design. A total of 111,887 records were selected from the eligible population, and 15,009 were selected from the ineligible population.

The analytic technique that was implemented for relating the dependent and independent variables to the study objectives was cross-tabulations. All tabular displays were designed such that the independent variables defined the column headers and the dependent variables defined the row stubs. Comparisons on the dependent variables were obtained by subtracting the BEOG-reported data from the IRS-reported data. In order that the findings represented the correct proportions of applicants selected from each stratum, and that the findings could be related to the total population, all data entered into the tables were inflated by applying the appropriate population-to-sample ratio to each record. Consequently, all reported findings are estimates of the population represented by the matched group.

In addition to analyzing the linked IRS and BEOG records, a secondary analysis was performed to determine the impact of non-matched records on the accuracy of generalizations made from the sample to the populations. This was achieved by obtaining population counts for independent variables from the BEOG file and comparing them to counts of the matched and non-matched records. These are discussed further in Chapter 3, Findings.

2.2: SUMMARY OF OPERATIONAL PROCEDURES

Aside from the analytic considerations, a major concern in developing the study design was the protection of individual privacy. At the onset of this study it was agreed that the data provided by IRS would never be used by the Office of Education or

ts contractors as the basis for following-up the individuals whose records were selected for comparison; nor would the Basic Grant data be made available to the Internal Revenue Service for the purpose of identifying tax returns for audit. Consequently, a complete set of operations was implemented to assure that complete privacy would be maintained throughout the conduct of the study and that individuals could never be traced from any of the files and reports generated as a result of the study.

The procedures that were used to achieve privacy and anonymity consisted of mechanical operations for linking and manipulating the data, and the logistical operations involved in coordinating the activities of all participating agencies.

The focus of the design of mechanical operations was on security and confidentiality, particularly in relation to the fact that the social security identifier was necessary to achieve a data linkage. In order to protect individual privacy, procedures were developed to use the social security number for accessing the IRS and BEOG data, but removing the social security number and substituting random identifiers to achieve a data linkage. Once the linkage was successful, the random identifiers were stripped from the merged file, thus assuring that records could never be traced to the individual. Other procedures implemented as barriers against tracing individuals were that (1) all intermediate files developed were destroyed and that (2) all tabular analytic output was designed so that that no cell in a tabular array would display less than ten observations.

The logistical activities that were integrated into the study design involved the participation of five agencies. The activities of each of these agencies are described below in terms of each agency's role in performing activities to achieve the linkage and to perform the analysis, as well as the role of each agency in protecting individual privacy:

1. The Office of Education was involved as the study coordinator and overseer. OE was involved in developing and approving the analytic design and all operational procedures, and in coordinating activities among the other agencies. The Office of Education was not involved in any data processing activities.

2. The Validation Contractor served as OE's prime contractor in designing the study. The validation contractor developed specifications for drawing the samples and preparation of the IRS and BEOG data for linkage. The validation contractor developed the program for producing the random identifiers that were substituted for the personal identifiers, and developed the specifications and programs for conducting the data linkage and analysis. No in-house computer processing was performed by the validation contractor.

3. The BEOG Processing Contractor is currently under contract for routine maintenance and processing of the BEOG files. The processing contractor performed computer operations to select the sample according to specifications provided by the validation contractor. The processing contractor developed two files - the IRS Cross-reference File which contained the personal identifiers necessary for accessing the IRS data and random identifiers necessary for achieving the linkage; and the BEOG File, which contained the random identifiers and the dependent and independent variables from the BEOG records. The processing contractor forwarded the IRS Cross-reference File to IRS and the BEOG File to an independent computer center.

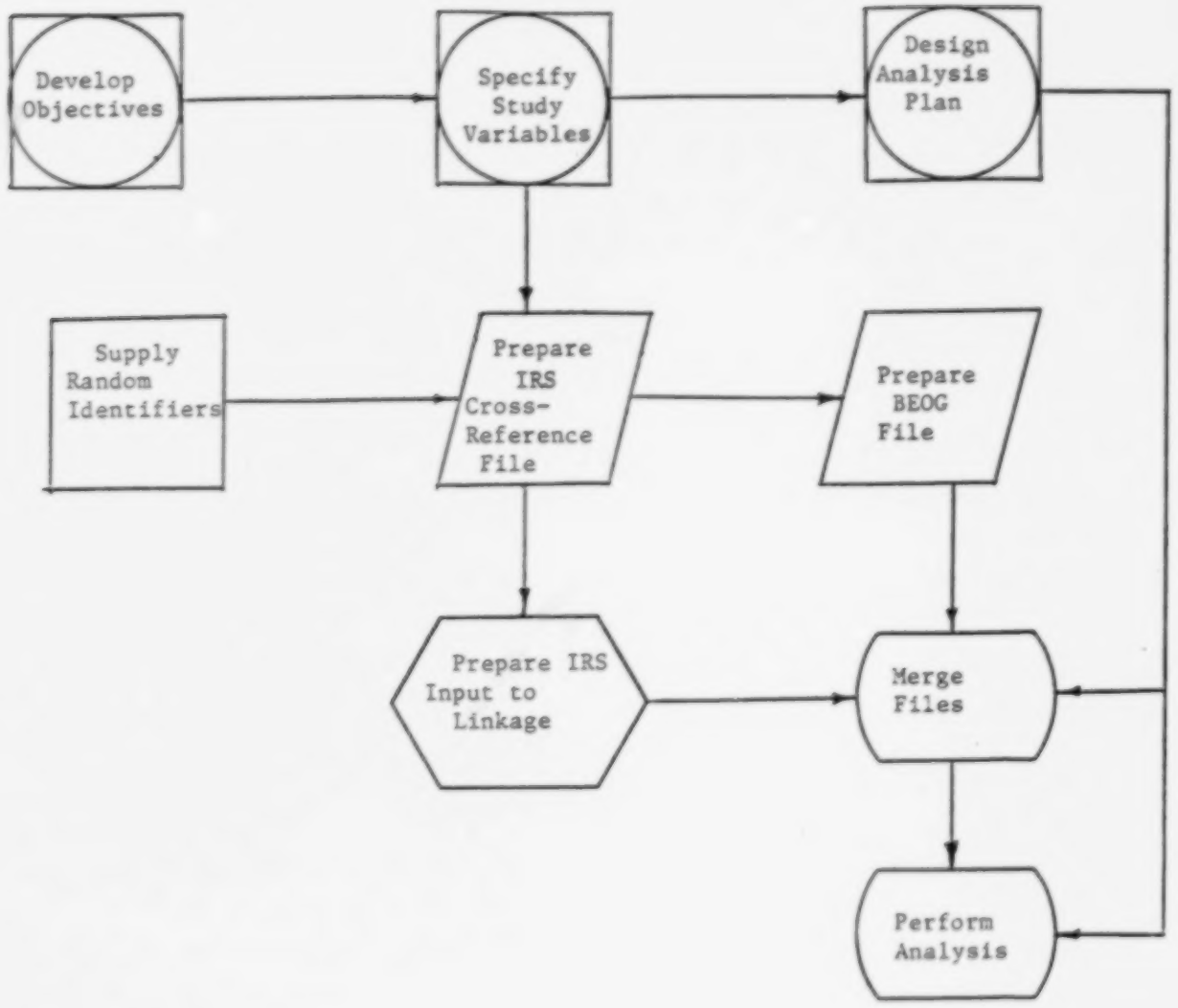
4. The Internal Revenue Service was involved in reviewing and approving all procedures prior to implementation. IRS was provided with the Cross-reference File developed by the BEOG processor. This file contained random and personal identifiers. IRS performed data processing to remove the personal identifiers and to prepare another file containing the IRS dependent and independent variables, and the random identifiers. This file was provided to the independent computer service for analysis.

5. The independent computer center served as the facility where the linkage between the BEOG and IRS data was achieved, and all analytic production was performed. According to programs and specifications provided by the validation contractor,

the BEOG and IRS data were merged, and the random identifiers were stripped from the merged file. Personnel who were resonsible for computer operations were informed only that the files were confidential and had to be secured in locked steel cabinets; they were not informed that the input files contained BEOG and IRS data. Once the merge was successful, all intermediate files were destroyed, and the analysis was performed at the independent computer facility according to programs and specifications developed by the validation contractor.

Exhibit 2.3 displays a flowchart description of the study methodology.

EXHIBIT 2.3: SUMMARY OF METHODOLOGY



= Office of Education Activities

= Validation Contractor Activities

= Internal Revenue Service Activities

= Processing Contractor Activities

= Independent Computer Service Activities

3

FINDINGS

The purpose of this chapter is to present the results of the IRS Comparison Study that respond to the overall study objectives: 1) to determine the scope of misreporting, and 2) to identify categories of applicants who tend to misreport. The first section which follows contains a discussion of the limitations of the findings, and the extent of possible bias due to nonmatched records. The succeeding sections are arranged to present the findings in regard to the overall scope of misreporting, and the extent of misreporting for various categories of applicants on adjusted gross income, taxes paid, and household size.

3.1: RESULTS OF DATA LINKAGE AND LIMITATIONS OF THE DATA

A total of 126,896 BEOG records were selected from the 1974-75 BEOG eligible and ineligible populations for comparison with IRS records. A linkage was successfully completed for only 70,063 records, or 55 percent, due to the study design and several features of the BEOG and IRS processing systems. Appendix B contains the match rates for each cell in the sample design, and presents the portion of non-match by reason for nonmatch. The purpose of this section is to explore the possibility of bias in the findings due to the nonmatch rate, and to explain some of the reasons for nonmatch so that the findings can be interpreted more meaningfully and accurately.

With such a large percentage of nonmatched records, a primary concern was to determine whether the records were lost systematically

and therefore effected a bias, or were lost randomly and did not result in a bias. In order to assess how accurately the matched group represented the BEOG population, a comparison was made between the proportion of applicants with specific characteristics in the matched study group to the proportion of applicants in the population with the same characteristics. Exhibit 3.1 shows these comparisons for three applicant categories of primary interest--eligibles/ineligibles, dependents/independents, and applicants at various income levels. Appendix C contains additional comparisons for more than 30 other applicant characteristics.

According to Exhibit 3.1 and Appendix C, it appears that the matched group was similar to the population in most respects (implying that nonmatched records tended to occur randomly) with one very significant exception[1/] -- that low income eligibles accounted for almost half of the eligible population, but accounted for only slightly more than one-fourth of the eligibles in the matched sample. The fact that low income eligibles were underrepresented in the matched group was expected. Because many persons with earned incomes below $4,000 were not likely to have paid Federal income tax, many may not have filed a Federal income tax return. Consequently, these people were not located in the IRS master file.

An examination of the low income eligibles who were located in the IRS master file revealed that many had underreported their

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1/ Appendix C reveals that the proportions of applicants reporting a low amount of taxes and nontaxable income also differ. These applicants, however, are also likely low income applicants. Appendix C also shows that the proportion of applicants in the study group with household size equal to and greater than exemptions also differed from the population. It is assumed that this occurred because in order to meet these criteria, both 1973 and 1974 tax information was necessary, and fewer people had IRS records for both years than for one year.

EXHIBIT 3.1: COMPARISON OF POPULATION AND SAMPLE PROPORTIONS ON STRATIFICATION VARIABLES

	ELIGIBLES			INELIGIBLES		
	Percent in Population	Percent in Study Group	Percent Matched	Percent in Population	Percent in Study Group	Percent Matched
Dependents	78	82	55	84	87	81
Independents	22	18	42	16	13	61
Income under $4,000	46	27	31	9	7	59
$4,000 to $6,999	20	23	63	9	9	80
$7,000 to $9,999	18	24	71	10	10	74
$10,000 to $12,499	11	15	76	13	13	72
$12,500 to $14,999	5	7	79	18	19	76
$15,000 to $17,499	1	2	78	15	16	84
$17,500 or more	.4	.5	72	25	26	84

5.5

income on the Basic Grant application. It was found that in the matched study group, low income eligibles represented a lower accuracy rate than was found for all other income levels. Based upon this finding and the hypothesis that the "true" low income eligibles had not filed a tax return, it was concluded that the findings that are based upon the matched sample are biased against accuracy, and, in fact, overestimate the rate of misreporting income in the population.

It is relevant to note that the proportion of low income ineligibles in the matched group did not differ greatly from the proportion in the population. This may have occurred because most ineligibles reporting a low adjusted gross income had a larger earned income that was adjusted downward. This may explain why the majority of these applicants did file a Federal Income Tax return. These applicants probably also reported high assets; otherwise, they would have been eligible. Therefore, it was concluded that both the lower match rate for low income eligibles and the higher match rate for low income ineligibles are consistent.

Careful consideration was given to the possibility of making population estimates by adjusting the analysis files to include non-matched low income eligibles in the matched group and assuming that they had no income discrepancies. It was decided that such an adjustment to the analysis files would result in new and unknown biases since it would be impossible to determine which of the low income eligibles had not matched because they did have a low income and had not filed a tax return, or which had not matched for other reasons, such as an erroneous social security number. Further, making such an adjustment to the files would introduce additional problems in determining the accuracy of household size and exemptions for the nonmatched group. Therefore, it was decided that adjustments would be made to specific

findings, where appropriate, but that the analytic files would not be altered. Therefore, unless noted otherwise, findings contained in this report are based upon the matched BEOG-IRS study group.

The discussion to this point has focused on the extent to which the characteristics of the matched group were similar to, or at variance with, the population. This discussion is applicable to interpretations about the overall scope of misreporting. In addition to examining accuracy rates for the total matched group, a second purpose of this IRS Comparison Study was to report on the accuracy of specific categories of applicants (see Section 3.3) in order to determine whether particular characteristics were related to accuracy. Therefore, it was also important to consider the match rate for particular categories of applicants so that a determination could be made of how well the accuracy rates for applicant categories in the study group can be expected to represent the same categories in the population. Appendix D contains the match rates for the categories of eligibles and ineligibles studied. According to Appendix D the match rates for various categories of applicants vary from as low as 20 percent to as high as 90 percent. Because the study was confined to computerized analyses excluding any individual identification, no actions could be taken to increase the match rate. Appendix E is provided to discuss factors which affected the match rate.

3.2: OVERALL SCOPE OF MISREPORTING INCOME

In order to determine the overall scope of misreporting, comparisons were made between the IRS and BEOG-reported adjusted gross income. In addition, the IRS-reported income data were substituted into the formula used for determining Basic Grant eligibility so that an assessment could be made of the impact of misreporting on eligibility. The subsections which follow contain the results of these comparisons, as well as a discussion of some of the reasons for apparent misreporting.

3.2.1: Overall Rate of Accuracy of Adjusted Gross Income

The comparison between the BEOG and IRS-reported adjusted gross income (AGI) was considered one of the most important components of this study for two reasons--(1) because the AGI carries considerable weight in the formula for determining Basic Grant eligibility, and (2) it was the only critical data item studied that was defined exactly the same on both the 1974-75 BEOG application and the 1973 Federal Income Tax form.

It was found that 79 percent of the applicants for whom IRS records were found had no significant discrepancy[1/] between the amount reported to BEOG and to IRS. It must be emphasized that this figure does not represent the accuracy rate in the BEOG population since the matched sample had a systematic bias against accuracy. In the previous section it was pointed out that 46 percent of the eligibles in the BEOG population reported an income below $4,000, but IRS records were found for only 27 percent of the sample with an income below $4,000. It was also noted that many of the low income eligibles who matched really had higher incomes, but had understated the income to BEOG. This was derived from the finding that in the matched sample the low income eligibles had the lowest accuracy rate of all income levels. The hypothesis that the IRS records were not found for the "true" low income applicants was also supported by the findings of similar studies.

1/ For the purposes of this study income discrepancies of $200 or less were not considered significant since they have almost no effect in altering BEOG eligibility. It should be noted that this implies a very stringent definition of discrepancy, particularly in comparison with those adopted in other studies described below. The discrepancy rates reported in this study, therefore, are not always comparable to discrepancy rates reported in other studies.

Both Diegnau[2/] and Bowman[3/] found that it is not low income applicants who understate income most frequently, but rather that middle income applicants, who are in strongest competition for financial assistance, tend to understate income most frequently.

In order to estimate how accurately AGI is reported in the BEOG population, accuracy rates from the study group were adjusted by increasing the number of low income applicants from 27 percent to 44 percent, and assuming that income had been reported accurately for the additional 17 percent. The exhibit which follows shows the results of this adjustment and provides an estimate of the accuracy of income for the total BEOG population. The percents based on the eligibles in the matched study group are shown in parentheses. Detailed tables from which this exhibit was derived are found in Appendices F and G. According to the estimate, 82 percent of the population reported an AGI to BEOG within $200 of the amount reported to IRS. Thus, it appears that the majority of BEOG applicants tend to be highly accurate in reporting income.

EXHIBIT 3.2: ESTIMATED ACCURACY OF ADJUSTED GROSS INCOME FOR THE BEOG POPULATION IN PERCENTS

	TOTAL	ELIGIBLES	INELIGIBLES
UNDERREPORT	13.0 (15.0)	16.5 (21.2)	8.4
ACCURATE (±$200)	81.5 (78.8)	77.7 (71.3)	86.7
OVERREPORT	5.4 (6.2)	5.8 (7.5)	4.9
PERCENT OF TOTAL	99.9	57.5	42.5

1/ Diegnau, Sylvia I, "Stretching Your Financial Aid Dollars: Another Look at Income Verification," The Journal of Student Financial Aid, November, 1975.

2/ Bowman, James L. "Parents' Reports of Income--How Accurate Are They"? College Board Review, Winter, 1975.

3.2.2: Accuracy Associated with Income Level

In previous studies of the accuracy of reported income on other financial need analysis forms (Bowman, 1975, Diegnau, 1975) it was generally found that applicants reporting incomes between $4,000 and $10,000 tended to be least accurate, and that applicants at the highest income levels tended to be most accurate. In this study the following accuracy rates were found for all applicants at various income levels:

EXHIBIT 3.3: ESTIMATED ACCURACY OF ADJUSTED GROSS INCOME FOR BEOG POPULATION IN PERCENTS[1/]

		BEOG - REPORTED AGI:						
	TOTAL	Less than $4,000	$4,000-$6,999	$7,000-$9,999	$10,000-$12,499	$12,500-$14,999	$15,000-$17,499	$17,500+
UNDERREPORT	13.0 (15.0)	15.7 (29.0)	15.5	15.8	13.6	8.5	9.0	6.7
ACCURATE	81.5 (78.8)	80.0 (63.0)	74.8	77.9	81.4	87.6	86.9	89.0
OVERREPORT	5.4 (6.2)	4.3 (8.0)	9.7	6.3	5.0	4.0	4.1	4.3
TOTAL		27.9	14.4	14.8	12.2	11.3	7.9	11.5

Including the adjustment for the low income eligibles, it was found that the least accurate reporters were in the $4,000 to $9,000 income range, and that more of the applicants in this range tended to overstate their income than in other ranges. The finding of the mid-income applicants being least accurate is consistent with the findings of previous studies; however, these studies have revealed that the higher income applicants overstate income more frequently than applicants at other income levels. One reason for this disparity in findings may be due to the BEOG filing year. Unlike private financial need analysis forms which may be completed prior to the receipt of W-2 statements, the BEOG processing

[1/] Detailed tables from which this exhibit was derived are found in Appendices H-K.

of 1974-75 applications began in the spring. Therefore, all applicants already possessed the information necessary to complete the application and did not have to estimate income. It may be for this reason that the higher income BEOG applicants showed less of a trend in overstating income than was found in previous studies.

3.2.3: Accuracy Associated with Financial Dependency Status

The Basic Grant population is comprised of two broad categories of applicants - those who are dependent upon parental financial support and those who are independent of parental support. The accuracy rates for those two groups are shown in the exhibit which follows. In order to make the findings better represent the population, the adjustment described previously was applied to the number of low income eligibles. Percentages based upon the matched study group are shown in parentheses.

EXHIBIT 3.4: ESTIMATED ACCURACY OF ADJUSTED GROSS INCOME FOR DEPENDENTS AND INDEPENDENTS IN THE BEOG POPULATION IN PERCENTS[1/]

	TOTAL	DEPENDENT	INDEPENDENT
UNDERREPORT	13.0 (15.0)	11.3 (13.2)	24.4
ACCURATE	81.5 (78.8)	84.0 (81.2)	65.4
OVERREPORT	5.4 (6.2)	4.7 (5.5)	10.2
TOTAL	99.9	86.6 (84.6)	13.4 (15.4)

According to this exhibit, only 66 percent of the independents reported accurately, while 84 percent of the dependents reported accurately. The high misreporting rate for independents does not impact very significantly on the total population, however, since independents comprised less than one-fifth of the total. In

[1/] Detailed tables from which this exhibit was derived may be found in Appendices F and G.

reviewing these accuracy rates it is interesting to note that although independents were significantly more inaccurate, not all of the inaccuracies are in favor of increased eligibility. Specifically, the independents' rate of underreporting is higher, as well as their rate of overreporting. This implies that a large portion of all misreporting may be unintentional.

3.2.4: Magnitude of Discrepancies

In order to more fully determine the overall scope of misreporting, an assessment was made of the magnitude of the discrepancies as shown in Exhibit 3.5 below. The findings presented include the adjustment for missing low income eligibles; the percents based upon the eligibles in the matched study group are shown in parentheses.

EXHIBIT 3.5: ESTIMATED MAGNITUDE OF ADJUSTED GROSS INCOME DISCREPANCIES FOR THE BEOG POPULATION IN PERCENTS

	TOTAL	ELIGIBLES	INELIGIBLES
EXACTLY EQUAL	57.0 (50.7)	48.5 (33.7)	68.7
± $50	77.9 (74.6)	73.9 (66.4)	83.2
± $200	81.5 (78.7)	77.7 (71.3)	86.7
± $500	84.9 (82.6)	81.6 (76.3)	89.3
± $1,000	88.5 (86.8)	85.9 (81.9)	91.2
± $2,000	92.3 (91.2)	90.6 (87.9)	94.6

According to the study findings, it is estimated that 9 out of 10 applicants report income within $1,000 to Basic Grants; and 8 out of 10 reported within $200. Although only about half of the applicants reported exactly the same amount to both BEOG and IRS, it is significant to note that more than three quarters of the applicants reported accurately within $50.

3.2.5: Impact of Discrepancies on BEOG Eligibility

Eligibility for a Basic Grant is determined by entering more than 20 variables into a formula that is developed by the Office of Education and approved by Congress each year. Based upon application of the formula, an applicant receives an eligibility index, or an estimate of the family's expected contribution to educational expenses. Eligibility indices in the range between zero and 1200 indicate that the applicant is entitled to receive a Basic Grant award. The amount of the award is determined by considering educational expenses at the selected postsecondary institution, since by law, the Basic Grant award cannot exceed one-half of the cost of educational expense or $1400. Because of the complexity of the formula, a change in income does not necessarily effect a change in eligibility. In order to more fully explore the impact of misreporting, eligibility indices were re-calculated by substituting the IRS-reported AGI for the BEOG-reported AGI into the formula. The following exhibit shows the effects of this substitution. Adjusted percents are shown to make the findings representative of the population; actual percents based upon the eligibles in the matched study group are shown in parentheses.

EXHIBIT 3.6: ESTIMATED EFFECT OF AGI SUBSTITUTION ON ELIGIBILITY INDEX IN PERCENTS

	TOTAL	ELIGIBLES	INELIGIBLES
Increased Eligibility by more than 200 points	7.6 (8.7)	8.9 (11.5)	5.8
No Significant Change (± 200 points)	89.7 (88.2)	89.3 (86.2)	90.2
No Change	68.3 (63.8)	68.4 (59.4)	68.3
Decreased Eligibility by more than 200 points	2.7 (3.1)	1.8 (2.3)	3.9
TOTAL	100.0	57.5	42.5

According to these findings nine out of every ten BEOG applicants would not have a significant difference in eligibility had the IRS AGI been used in determining eligibility. Fewer than eight out of every one hundred BEOG applicants would have increased their eligibility. To facilitate comparisons with Exhibit 3.2, which shows the accuracy of income, "no significant change" in this table includes no change, or a change of less than 200 points. Therefore, although only 82 percent of the population were estimated to report income accurately (within $200), 90 percent would have received the same eligibility index (within 200 points) if the IRS-reported AGI was used in determining eligibility. It should be noted that point changes of 200 or less may or may not result in a change in the amount of award. There is no direct correlation between amount of point change and amount of award change. The amount of the award is dependent upon several factors, including the cost of education and whether the student is enrolled full-or part-time.

The absolute difference between the BEOG eligibility index and the eligibility index derived from the IRS AGI tends to overstate the extent of change in eligibility. Because 1200 is the maximum number of points for BEOG eligibility, any point changes that result in an index in excess of 1200 are irrelevant. In order to better ascertain the impact of misreporting on the eligibility index, two additional analyses were performed. The following list indicates the percent of applicants whose eligibility index changed, with the inclusion of the IRS data, and the average amount of change. These figures were calculated by only counting point changes up to 1200, and they include the adjustment for low income eligibles:

- 11 percent of the eligibles decreased their eligibility by an average of 99 points.
- 21 percent of the eligibles increased their eligibility by an average of 205 points.
- 2 percent of the ineligibles had point changes resulting in eligibility and had an average eligibility index of 514; 30 percent had point changes that did not result in eligibility.

The eligibility of the majority of applicants studied, however, were not impacted by the substitution of the IRS data for the BEOG data:

- 68 percent of the eligibles had no point changes.
- 68 percent of the ineligibles had no point changes.

Relating these point changes to all eligibles and ineligibles, the impact of point changes are summarized below:

- On the average, applicants in the Basic Grant population would have decreased their eligibility by only 20 points if the IRS AGI had been used in determining eligibility.
- On the average, eligibles would have decreased their eligibility by 47 points.
- On the average, ineligibles would have increased their eligibility by 11 points.

The second analysis performed to provide a better indication of the effects of misreported AGI on eligibility was to determine the number of eligibles who were ineligible according to their IRS data, as well as the number of ineligibles who were eligible according to the IRS AGI. These are listed below, and include the adjustment for low income eligibles:

- 4.4 percent of the eligibles were ineligible.
- 1.4 percent of the ineligibles were eligible.
- Overall, 3 percent changed eligibility status.

In conclusion it appears that overall, misreporting does not have a very significant impact in altering Basic Grant eligibility. It was found, however, that relatively high rates of misreporting tended to be concentrated in specific subsets of the total population. Section 3.3 discusses these and identifies categories of applicants which were found to have the highest and lowest accuracy rates.

3.2.6: Reasons for Misreporting

An interesting feature of the findings presented in this section is that not all misreporting is to the applicants'

advantage. Specifically, between one-half and one-third of the misreporting is comprised of income overstatements, which serve to decrease the applicant's eligibility. This implies that much of the misreporting is not intentional fraud, and that it is likely that even many of the income understatements, which are to the applicant's advantage, are also unintentional.

While a statistical study cannot reveal true reasons for misreporting, other components of this validation effort revealed that misreporting income can be attributed to several possibilities. Perhaps the greatest contributor to misreporting on the Basic Grant application is the applicant's failure either to understand the application instructions, or to pay careful attention to them. The majority of the eligible BEOG population consists of applicants from low income families. These people lack the experience and skills in completing financial forms that would better enable them to complete the Basic Grant application correctly. This was very apparent in the individual validation component of this study, which involved letter and telephone communications with 1975-76 eligibles. From these individual contacts it was observed that most misreporting resulted from the applicant's and family's naivete about completing complex financial forms, or simple carelessness.

It is important to note that the findings of this study revealed that eligibles do not report income as accurately as ineligibles. Ineligibles, however, are comprised largely of applicants from high income families who are more sophisticated in completing complex financial forms. Even the low-income ineligibles are more sophisticated since the majority of them filed tax returns. One reason for low income ineligibles to file a tax return is that although their adjusted gross income was low, it was probably due to adjustments to a larger income. This implies that even the low income ineligibles are of a higher socio-economic status than their eligible counterparts.

There are several other reasons why income may be misreported. Another is that the applicant may report a rounded amount instead of reporting the actual amount. When income is being reported in the thousands, it is typical for an applicant to round to the nearest thousand or nearest five hundred. For example, an income of $8,363 may be rounded to $8,000 or to $8,500 by the applicant.

In cases of separation or divorce, Basic Grant policy requires only the income of the parent who provides the majority of the applicant's support to be included on the application. Legitimately reported income may appear to be misreported when the applicant or parent is separated or divorced, but files a joint tax return with the (former) spouse, or the parent re-marries and files a joint return with the new spouse. In such instances the combined income would have been accessed from the IRS file, while the income of the parent providing the support would have been reported to BEOG. It was found that the applicants and parents who reported a marital status of divorced, widowed, or separated did have a lower accuracy rate than was found for the overall study group. This is shown in the following exhibit:

EXHIBIT 3.7: ACCURACY OF ADJUSTED GROSS INCOME FOR APPLICANTS/ PARENTS IN THE STUDY GROUP REPORTING SEPARATED OR DIVORCED

	TOTAL	JOINT RETURN	SEPARATE RETURN
UNDERREPORT	18.6	27.8	17.9
ACCURATE	74.8	64.4	75.6
OVERREPORT	6.6	7.9	6.5
TOTAL	100	7.5	92.5

Divorced applicants in the study group who filed a joint return had an accuracy rate of only 64 percent and applicants who filed a separate return showed an accuracy rate of 76 percent. Both of these figures are lower than was found for the total study group, even without the adjustment for missing low income eligibles.

Apparently not only do divorced/separated applicants filing a joint return account for some of the apparent misreporting, but all applicants and parents studied who reported a divorced/separated/widowed marital status were found to be less accurate than the total study group. Since about one-third of the BEOG population reports a divorced/separated/widowed marital status, a significant amount of apparent misreporting may be attributed to this factor. Assuming that a substantial portion of the apparent "misreporting" for the divorced/separated group is probably accurate reporting, it may be concluded that the overall accuracy rate in the population is even higher than the estimated 82 percent made previously.

In addition to the three areas already discussed, another possible explanation for misreported income is clerical errors. Clerical errors may result from transposed numbers, misplaced decimals, and keypunch errors. In this study it was found that fewer than one percent of the discrepancies could be attributed to clerical errors. Transpositions were examined by tallying the number of discrepancies where the order of the digits differed between the BEOG and IRS AGI, but the same digits were present in both. Misplaced decimals were identified when the BEOG-reported AGI was a power of ten times the IRS AGI. The keypunch error rate was reported to be less than one percent in both the BEOG and IRS files. Accordingly, clerical errors appear to account for a small portion of the apparent misreporting.

The final possibility that explains misreporting is intentional misrepresentation. Given the escalating costs of education and limited sources of financial aid, there is a definite incentive for families to fail to indicate their full financial resources. This may be evidenced in the fact that the majority of the misreporting was in the direction of increased eligibility.

In conclusion, then, it appears that Basic Grant applicants generally tend to report income accurately and honestly. It has been observed that many applicants and families are not familiar

with financial applications and inadvertantly misreport information. It has also been observed that more of the misreporting consists of income understatements than overstatements; therefore, a small portion of the applicants appear to be intentionally misreporting income to increase the possibility or amount of the Basic Grant award.

3.3: ACCURACY OF REPORTING FOR CATEGORIES OF APPLICANTS

One of the purposes of this study was to determine whether any categories of applicants tended to misreport more than all other applicants so that measures could be taken to control misreporting through an expansion of the validation effort and refinements in Basic Grant application procedures. This section presents the accuracy of BEOG-reported income, taxes, and household size for the categories of applicants studied, and the impact of substituting IRS-reported data into the formula for determining eligibility. In order to facilitate an assessment of these findings, this section is divided into five separate parts. Sections 3.3.1 through 3.3.4 contains the findings in a standardized format for applicant categories relevant to income, taxes, household size, and eligibility index comparisons. Exhibit 3.8 displays a prototype of the standard format and explains the contents of each entry. Section 3.3.5 summarizes and highlights the findings of the previous sections.

3.3.1 Accuracy of Reporting Adjusted Gross Income for Categories of Applicants

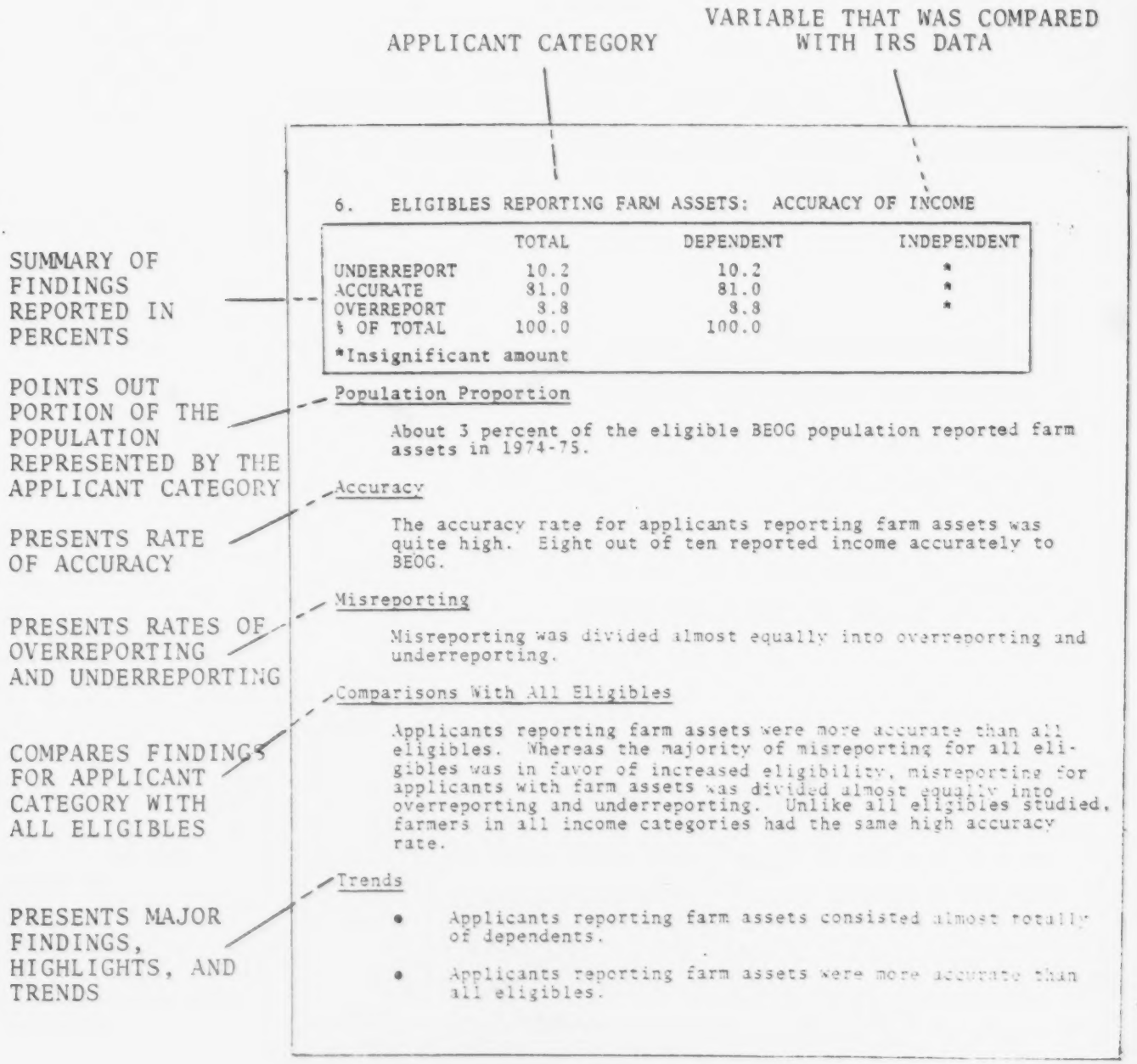
The purpose of this section is to present a brief discussion of the findings related to the accuracy of adjusted gross income[1/] for the various categories of applicants studied. The findings are presented in a standardized format, as shown in Exhibit 3.8. The order in which the categories of applicants appear in this section is as follows:

1. Eligible Dependents and Independents
2. Eligible Dependents at Various Income Levels
3. Eligible Independents at Various Income Levels
4. Eligibles at Various Income Levels
5. Eligibles Reporting Divorced/Widowed/Separated
6. Eligibles Reporting Farm Assets
7. Eligibles Reporting Business Assets

1/ In this section "accurate" is defined as the absolute difference between the IRS and BEOG reported AGI being $200 or less.

EXHIBIT 3.8

EXPLANATION AND SAMPLE OF
STANDARDIZED PRESENTATION OF FINDINGS FOR
APPLICANT CATEGORIES


APPLICANT CATEGORY
VARIABLE THAT WAS COMPARED WITH IRS DATA
SUMMARY OF FINDINGS REPORTED IN PERCENTS
POINTS OUT PORTION OF THE POPULATION REPRESENTED BY THE APPLICANT CATEGORY
PRESENTS RATE OF ACCURACY
PRESENTS RATES OF OVERREPORTING AND UNDERREPORTING
COMPARES FINDINGS FOR APPLICANT CATEGORY WITH ALL ELIGIBLES
PRESENTS MAJOR FINDINGS, HIGHLIGHTS, AND TRENDS
6. ELIGIBLES REPORTING FARM ASSETS: ACCURACY OF INCOME
TOTAL DEPENDENT INDEPENDENT
UNDERREPORT 10.2 10.2 *
ACCURATE 81.0 81.0 *
OVERREPORT 8.8 8.8 *
% OF TOTAL 100.0 100.0
*Insignificant amount
Population Proportion
About 3 percent of the eligible BEOG population reported farm assets in 1974-75.
Accuracy
The accuracy rate for applicants reporting farm assets was quite high. Eight out of ten reported income accurately to BEOG.
Misreporting
Misreporting was divided almost equally into overreporting and underreporting.
Comparisons With All Eligibles
Applicants reporting farm assets were more accurate than all eligibles. Whereas the majority of misreporting for all eligibles was in favor of increased eligibility, misreporting for applicants with farm assets was divided almost equally into overreporting and underreporting. Unlike all eligibles studied, farmers in all income categories had the same high accuracy rate.
Trends
• Applicants reporting farm assets consisted almost totally of dependents.
• Applicants reporting farm assets were more accurate than all eligibles.

7. Eligibles Reporting Business Assets
8. Eligibles Reporting Veterans Educational Benefits
9. Eligibles Reporting Social Security Educational Benefits
10. Eligibles Reporting Other Nontaxable Income
11. Eligibles Not Reporting Other Nontaxable Income
12. Eligibles Reporting a Negative Adjusted Gross Income
13. Eligibles Who Signed the BEOG Application Before and After April 15
14. Eligibles Who Submitted Corrections
14A. Eligibles With Discrepancies Who Had Submitted Corrections
14B. Eligibles Who Submitted No, One, Two, and More than Two Corrections
14C. Eligibles Who Had Been Rejected for Income Reasons
14D. Eligibles Who Received an Assumed Adjusted Gross Income and Did Not Change It
14E. Eligibles Who Received an Assumed Adjusted Gross Income and Changed It
14F. Eligibles Who Had Submitted Non-Requested Adjusted Gross Income Corrections
15. Ineligibles
16. Ineligible Dependents at Various Income Levels
17. Ineligible Independents at Various Income Levels
18. Ineligibles at Various Income Levels

Highlights of the major findings and trends concerning the accuracy of adjusted gross income follow:

Accuracy of Adjusted Gross Income for Categories of Applicants

- In general, ineligibles were more accurate then eligibles, and dependents were more accurate than independents.
- More AGI misreporting was in favor of increased eligibility than decreased eligibility.

Eligibles only:

- Applicants reporting farm assets, business assets, and negative adjusted gross income tended to be more accurate than applicants in general.

- Applications signed prior to April 15 were found to be more accurate than those signed after April 15.
- Accuracy tended to increase as AGI increased.
- Accuracy tended to decrease as the number of corrections increased.
- Applicants who submitted corrections to AGI in response to a rejection comment or submitted non-requested corrections tended to be considerably less accurate than all eligibles.
- Applicants who receive AGI assumptions were less accurate than all eligibles, particularly if the applicant did not change the assumed value.
- Applicants or parents who were divorced/widowed/separated did not differ greatly from all eligibles studied in reporting accuracy of adjusted gross income.
- Applicants who reported nontaxable income were less accurate than those who did not report nontaxable income.
- Applicant categories comprised largely of dependents tended to be more accurate than all eligibles.
- Applicant categories comprised largely of independents tended to be less accurate than all eligibles.

1. ELIGIBLE DEPENDENTS AND INDEPENDENTS: ACCURACY OF ADJUSTED GROSS INCOME*

	TOTAL	DEPENDENT	INDEPENDENT
UNDERREPORT	16.5 (21.2)	14.0(18.9)	32.0
ACCURATE	77.7 (71.3)	80.8(74.1)	58.3
OVERREPORT	5.8 (7.5)	5.2 (7.0)	9.6
% OF TOTAL	100.0(100.0)	86.4(82.4)	13.6(17.6)

Population Proportions

Dependents - 78.2%
Independents - 21.8%

Accuracy

More than three-fourths of all eligibles reported accurately. Dependents reported more accurately than independents.

Misreporting

The majority of all misreporting was underreporting. About one-fourth of the misreporting was overreporting and three-fourths were underreporting. This 1 to 3 ratio held for all eligibles, dependents and independents.

Comparisons With All Eligibles

Dependents were more accurate than elibibles in general; independents were less accurate than eligibles in general.

Trends

- Dependents were more accurate than independents.
- For every eligible who overreported, about three underreported.

*Values shown in parentheses represent actual findings; adjacent figures contain an adjustment for missing low income eligibles.

Source: 1000 Series AGI Table No. 1

2. ELIGIBLE DEPENDENTS AT VARIOUS INCOME LEVELS: ACCURACY OF ADJUSTED GROSS INCOME

	TOTAL	Less Than $4,000	$4,000-$6,999	$7,000-$9,999	$10,000-$12,499	$12,500-$14,999	$15,000 $17,499	$17,500+
UNDERREPORT	18.9	26.4	18.4	18.3	17.3	13.3	13.0	11.3
ACCURATE	74.1	64.8	72.8	75.3	77.4	82.2	81.1	81.0
OVERREPORT	7.0	8.9	8.8	6.4	5.4	4.5	5.9	7.7
% OF TOTAL		17.0	24.3	28.0	18.6	8.9	2.6	.6

Population Proportions

Less Than $4,000	$4,000-$6,999	$7,000-$9,999	$10,000-$12,499	$12,500-$14,999	$15,000-$17,499	$17,500+
35.9	20.8	21.3	13.4	6.8	1.8	.5

Accuracy

The majority of dependents at any income level were accurate. Without the adjustment for missing low income eligibles, lowest income dependents had the lowest accuracy rate. Assuming that the non-matched low income eligibles were accurate, applicants in the $4,000 to $10,000 range were least accurate.

Misreporting

For all income levels the majority of misreporting was underreporting.

Comparisons With All Eligibles

Except for the lowest income dependents, which was biased against accuracy, dependents at all income levels were more accurate than all eligibles studied.

Trends

- Underreporting decreased as income increased
- Accuracy increased as income increased.

Source: 1000 Series AGI Table No. 2A

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3. ELIGIBLE INDEPENDENTS AT VARIOUS INCOME LEVELS: ACCURACY OF ADJUSTED GROSS INCOME

	TOTAL	Less Than $4,000	$4,000-$6,999	$7,000-$9,999	$10,000+
UNDERREPORT	32.0	37.1	16.3	17.0	*
ACCURATE	58.4	54.7	68.9	72.5	100.0
OVERREPORT	9.6	8.2	14.9	10.6	*
% OF TOTAL		75.6	19.8	4.4	.3

*Insignificant amount

Population Proportions

Less than $4,000	$4,000-$6,999	$7,000-$9,999	$10,000+
80.2	15.1	4.2	.4

Accuracy

The majority of all independents reported accurately. Lowest income independents reported least accurately, and accuracy increased as income increased.

Misreporting

The majority of misreporting at all income levels was underreporting. Underreporting decreased as income increased. The highest rate of overreporting was found at the $4,000 to $6,999 income interval.

Comparisons With All Eligibles

Independents were less accurate than all eligibles, and dependent eligibles. Fewer than two-thirds of the independents reported accurately while about three-fourths of all eligibles reported accurately.

Trends

- Accuracy increased as income increased.
- Underreporting decreased as income increased.

Source: 1000 Series AGI Table No. 2B

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4. ELIGIBLES AT VARIOUS INCOME LEVELS; ACCURACY OF ADJUSTED GROSS INCOME*

	TOTAL	Less Than $4,000	$4,000-$6,999	$7,000-$9,999	$10,000-$12,499	$12,500-$14,999	$15,000-$17,499	$17,500+
UNDERREPORT	21.2	31.5(15.4)	18.1	18.3	17.2	13.3	13.0	11.3
ACCURATE	71.3	59.9(80.4)	72.2	75.2	77.4	82.2	81.1	81.0
OVERREPORT	7.5	8.6 (4.2)	9.7	6.5	5.4	4.5	5.9	7.7
% OF TOTAL		27.3(43.5)	23.4(18.3)	23.9(18.5)	15.3(11.9)	7.4 (5.7)	2.1 (1.6)	.5 (.4)

Population Proportions

Less Than $4,000	$4,000-$6,999	$7,000-$9,999	$10,000-$12,499	$12,500-$14,999	$15,000-$17,499	$17,500+
45.6	19.6	17.6	10.6	4.9	1.4	.4

Accuracy

The highest accuracy rates were found at the highest income levels. Excluding any adjustment for missing low income eligibles, the lowest income applicants were least accurate. Including an adjustment for non-matched low income eligibles, (shown in parentheses), applicants in the $4,000 to $10,000 range were least accurate.

Misreporting

The majority of misreporting at every income level was underreporting. More misreporting occured at the low income levels than the high income levels. The low income levels had the highest rates of both underreporting and overreporting.

Comparisons With All Eligibles

Eligibles reporting high incomes tended to be more accurate and underreport AGI less frequently than all eligibles studied. Applicants in the income range between $4,000 and $10,000 tended to be less accurate than all eligibles.

Trends

- Accuracy increased as income increased.
- The majority of misreporting at every income level was underreporting, which increases eligibility.

*Figures shown in parentheses represent actual study findings; adjacent figures represent the adjustment for low income eligibles.

Source: 1000 Series AGI Table Nos. 2A,2B

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5. ELIGIBLES REPORTING DIVORCED/WIDOWED/SEPARATED: ACCURACY OF INCOME

	IRS Filing Status:		
	TOTAL	JOINT	SEPARATE
UNDERREPORT	21.5	41.3	20.6
ACCURATE	72.0	52.9	72.9
OVERREPORT	6.5	5.8	6.6
% OF TOTAL	100.0	4.3	95.7

Population Proportion

36 percent of the eligible BEOG applicants reported a divorced/widowed/separated marital status in 1974-75

Accuracy

The majority of all applicatns or parents reporting a divorced/widowed/separated marital status reported accurately. Applicants/parents who file a joint IRS return, however, were less accurate than those filing a separate return.

Misreporting

Divorced applicants/parents filing a joint return had a higher rate of misreporting than those filing a separate return. Most misreporting were in favor of increased eligibility for applicants filing either joint returns or separate returns.

Comparisons With All Eligibles

Overall, eligible applicants in the study group who reported a divorced/widowed/separated marital status did not differ significantly from all eligibles. Those who filed a joint IRS return evidenced a lower rate of accuracy than those who filed a separate IRS return. Only a small portion of the study group, however, filed a joint return.

Trends

- Eligibles reporting divorced/widowed separated did not differ in accuracy from all other eligibles.
- Divorced/widowed/separated applicants and parents who filed a joint return were less accurate than those who filed a separate return

Notes

It should be noted that divorced applicants filing a joint return may have appeared to be less accurate because of the

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study design. A joint tax return includes two incomes, and the Basic Grant program regulation concerning divorced parents is that only the income of the parent supporting the BEOG applicant should be included on the application. Therefore, although parents who filed a joint return may have reported the correct amount of income to BEOG, they would have appeared inaccurate in this study.

Source: 1000 Series AGI Table Nos. 1E, 1F

6. ELIGIBLES REPORTING FARM ASSETS: ACCURACY OF INCOME

	TOTAL	DEPENDENT	INDEPENDENT
UNDERREPORT	10.2	10.2	*
ACCURATE	81.0	81.0	*
OVERREPORT	8.8	8.8	*
% OF TOTAL	100.0	100.0	

*Insignificant amount

Population Proportion

About 3 percent of the eligible BEOG population reported farm assets in 1974-75.

Accuracy

The accuracy rate for applicants reporting farm assets was quite high. Eight out of ten reported income accurately to BEOG.

Misreporting

Misreporting was divided almost equally into overreporting and underreporting.

Comparisons With All Eligibles

Applicants reporting farm assets were more accurate than all eligibles. Whereas the majority of misreporting for all eligibles was in favor of increased eligibility, misreporting for applicants with farm assets was divided almost equally into overreporting and underreporting. Unlike all eligibles studied, farmers in all income categories had the same high accuracy.

Trends

- Applicants reporting farm assets consisted almost totally of dependents.
- Applicants reporting farm assets were more accurate than all eligibles.

Source: 1000 Series AGI Table No. 1A

3.28

7. ELIGIBLES REPORTING BUSINESS ASSETS: ACCURACY OF INCOME

	TOTAL	DEPENDENT	INDEPENDENT
UNDERREPORT	8.9	8.9	*
ACCURATE	79.7	79.9	76.1
OVERREPORT	11.4	11.3	23.1
% OF TOTAL	100.0	99.7	.3

*Insignificant amount

Population Proportion

About three percent of the eligible BEOG applicants reported business assets in 1974-75

Accuracy

The accuracy rate for applicants reporting business assets was high. About eight out of every ten applicants with business assets reported accurately.

Misreporting

The majority of misreporting by applicants with business assets was overreporting, which decreased eligibility.

Comparisons With All Eligibles

Applicants reporting business assets were more accurate than all eligibles. More applicants with business assets overreported than underreported. This is inconsistent with findings for all eligibles studied.

Trends

- Almost all applicants reporting business assets were dependents.
- Applicants reporting business assets had a higher accuracy rate than all eligibles studied.

Source: 1000 Series AGI Table No. 1B

3.29

8. ELIGIBLES REPORTING VETERANS EDUCATIONAL BENEFITS: ACCURACY OF ADJUSTED GROSS INCOME

	TOTAL	DEPENDENT	INDEPENDENT
UNDERREPORT	32.0	21.6	38.2
ACCURATE	57.9	69.7	50.9
OVERREPORT	10.1	8.6	11.0
% OF TOTAL	100.0	37.3	62.6

Population Proportion

About three percent of the eligible BEOG applicants reported Veteran's educational benefits in 1974-75. This group was comprised largely of low income independents.

Accuracy

Fewer than two-thirds of the applicants reporting Veteran's educational benefits reported income accurately. Only about half of the independents reported accurately, and more than two-thirds of the dependents reported accurately.

Misreporting

The majority of misreporting was in favor of increased eligibility, with the misreporting rates highest for independents.

Comparisons With All Eligibles

Applicants reporting Veteran's educational benefits were less accurate than all eligibles studied. The proportion of applicants with Veteran's benefits who understated income was larger than the proportion of all eligibles who understated income.

Trends

- The majority of applicants reporting Veteran's educational benefits were independents.
- Applicants with Veteran's educational benefits reported income less accurately than all eligibles studied.
- Independents with Veteran's educational benefits reported less accurately than dependents with Veteran's educational benefits.

Source: 1000 Series AGI Table No. 1C

3.30

9. ELIGIBLES REPORTING SOCIAL SECURITY EDUCATIONAL BENEFITS: ACCURACY OF ADJUSTED GROSS INCOME

	TOTAL	DEPENDENT	INDEPENDENT
UNDERREPORT	25.4	23.2	44.0
ACCURATE	67.2	68.8	53.2
OVERREPORT	7.4	8.0	2.8
% OF TOTAL	100.0	89.2	10.8

Population Proportion

About eight percent of the eligible BEOG applicants reported Social Security educational benefits in 1974-75. The majority of this group were dependent upon parental support and had low incomes.

Accuracy

About two-thirds of the applicants receiving Social Security educational benefits reported income accurately. Only about half of the independents reported accurately, while more than two-thirds of the dependents reported accurately.

Misreporting

The majority of misreporting was in favor of increased eligibility. Almost all of the independents who misreported, and about half of all independents with Social Security educational benefits studied, understated their income.

Comparisons With All Eligibles

Applicants reporting Social Security educational benefits reported income less accurately than all eligibles.

Trends

- Independents receiving Social Security educational benefits reported less accurately than dependents receiving Social Security educational benefits.
- Eligibles receiving Social Security educational benefits were less accurate than all eligibles studied.

Source: 1000 Series AGI Table No. 1D

10. ELIGIBLES REPORTING OTHER NONTAXABLE INCOME: ACCURACY OF ADJUSTED GROSS INCOME

	TOTAL	DEPENDENT	INDEPENDENT
UNDERREPORT	26.2	19.3	48.6
ACCURATE	67.6	74.1	46.3
OVERREPORT	6.2	6.6	5.0
% OF TOTAL	100.0	76.8	23.2

Background

In addition to income that is subject to Federal Income tax, the formula for determining Basic Grant eligibility takes into account income received that is nontaxable. This includes welfare payments, child support, non-educational Veteran's benefits, and non-educational Social Security benefits. It also includes earned income that was not subject to Federal tax, such as interest on tax-free municipal bonds, and earned income that was too low to be subject to Federal tax.

Population Proportion

About 36 percent of the eligible BEOG applicants reported non-taxable income in 1974-75. This group is comprised largely of persons who have a low or no adjusted gross income.

Accuracy

About two-thirds of the study group reporting nontaxable income reported adjusted gross income accurately. Dependents had a much higher rate of accuracy than independents. Less than half of the independents in the study group reported accurately.

Misreporting

The majority of all misreporting was in favor of increased eligibility. For dependents, the proportions of underreporting and overreporting were similar to that found for all eligibles (3 to 1). Almost all independents who misreported understated their income.

Comparisons With All Eligibles

Applicants reporting other nontaxable income reported AGI less accurately than the total study group. However, this group was comprised largely of applicants reporting on AGI below $4,000. Applicants reporting other nontaxable income were more accurate than the total study group in the under $4,000 income category. Accordingly, the absence of nontaxable income when a low AGI is reported may be a successful means of isolating true low income applicants from applicants who understated their income.

Trends

- Eligible applicants reporting other nontaxable income reported AGI less accurately than all eligibles studied; although this group was comprised largely of low income applicants, applicants reporting nontaxable income were more accurate than all low income eligibles studied.

- Independents reporting other nontaxable income were quite inaccurate; fewer than half reported AGI accurately.

Source: 1000 Series AGI Table No. 1G

3.33

11. ELIGIBLES NOT REPORTING OTHER NONTAXABLE INCOME: ACCURACY OF ADJUSTED GROSS INCOME

	TOTAL	DEPENDENT	INDEPENDENT
UNDERREPORT	19.8	18.8	25.4
ACCURATE	72.3	74.1	63.1
OVERREPORT	7.8	7.1	11.5
% OF TOTAL	99.9	84.0	16.0

Population Proportion

Applicants who did not report nontaxable income accounted for 66 percent of the 1974-75 eligible population. This group, unlike the group that did report nontaxable income, was composed largely of applicants reporting an AGI above $4,000. 17 percent of the dependents in the population not reporting other income fell into the under-$4,000 AGI category. This figure was 73 percent for applicants who did report other income. For independents, 68 percent of the applicants reporting no other income reported an AGI below $4,000, while 95 percent of the independents who did report other income also reported an AGI below $4,000. Since more than 80 percent of the eligible population of applicants not reporting other income were dependent, this group was comprised largely of applicants with AGIs above $4,000.

Accuracy

The majority of applicants not reporting other income reported AGI accurately. About three out of every four eligible dependents in this group reported accurately, and about two out of every three independents reported AGI accurately.

Misreporting

The majority of misreporting was in favor of increased eligibility. About three-fourths of the misreporting for dependents was in the direction of increased eligibility while two-thirds of the independents' misreporting was in favor of increased eligibility. However, about one-fourth of the independents studied in this group underreported income and only one-fifth of the dependents underreported income.

Comparisons With All Eligibles

Applicants who did not report nontaxable income were found to be slightly more accurate than all eligibles studied. The accuracy rate for dependents in this group was the same as for all dependents: the accuracy rate for independents in this group was higher than for all independents studied.

Trends

- Applicants who did not report other income tended to report AGI slightly more accurately than all eligibles studied.

- Independents not reporting other income were more accurate than all eligible independents, but less accurate than eligible dependents.

Source: 1000 Series AGI Table No. 1H

3.55

12. ELIGIBLES REPORTING A NEGATIVE ADJUSTED GROSS INCOME: ACCURACY OF ADJUSTED GROSS INCOME

	TOTAL	DEPENDENT	INDEPENDENT
UNDERREPORT	6.6	6.6	*
ACCURATE	93.4	93.2	100.0
OVERREPORT	.0	.0	.0
% OF TOTAL	100.0	97.3	2.6

*Insignificant amount

Population Proportion

Applicants whose adjustments to income were larger than their income comprised about two percent of the 1974-75 eligible BEOG population. This group was composed largely of dependents, and represented about five percent of the dependent eligibles.

Accuracy

Accuracy of AGI for applicants reporting a negative income was very high. Nine out of ten applicants reporting a negative AGI reported AGI accurately. It should be noted that this is one category where independents were highly accurate and are even more accurate than dependents.

Misreporting

Virtually all misreporting was underreporting, which serves to increase eligibility. Because the accuracy rate was so high, however, the rate of underreporting was still lower than for all other categories of applicants.

Comparisons With All Eligibles

Applicants reporting a negative AGI were found to report AGI more accurately than all eligibles.

Trends

- Accuracy of AGI for eligibles reporting a negative AGI was higher than the accuracy of AGI for all eligibles.
- Independents with a negative AGI reported AGI more accurately than dependents with negative AGIs.
- Most applicants reporting a negative AGI were dependent.

Source: 1000 Series AGI Table No. 11

3.36

13. ELIGIBLES WHO SIGNED THE BEOG APPLICATION BEFORE AND AFTER APRIL 15: ACCURACY OF ADJUSTED GROSS INCOME

	BEOG Signature Date:			
	TOTAL	PRIOR TO APRIL 15	APRIL 16 TO MAY 15	AFTER MAY 15
UNDERREPORT	20.9	17.7	16.2	22.9
ACCURATE	71.6	76.2	77.9	68.9
OVERREPORT	7.4	6.1	6.0	8.2
% OF TOTAL	99.9	16.0	17.3	66.6

Background

The processing year for 1974-75 Basic Grant applications began in mid-March 1974 and continued through April of 1975. This cycle assures that the previous year's actual income may be reported, instead of an estimate of that income. It was hypothesized that applications filed prior to April 15 may contain more discrepancies since many may have been submitted prior to filing the Federal Income tax return.

Population

About 17 percent of the eligibles in the population who dated their application filed before April 15th, 1974. The remainder signed the BEOG application after April 15.

Accuracy

The study findings indicate that applications signed earlier in the year tended to be more accurate than those signed later in the year. Additional analyses also revealed that accuracy rates were highest where the BEOG and IRS forms were signed within one week of each other, regardless of which form was signed first. Accordingly, it appears that accuracy was affected more by the temporal proximity of the IRS and BEOG signature dates than the IRS return being filed prior to the BEOG application.

Regarding the lower accuracy rate for BEOG applications filed after May 15, it should be noted that a portion of these represent applications originally submitted prior to April 15, but corrected after April 15. Findings in the succeeding sections reveal that applications with corrections tended to be less accurate than those without corrections. Consequently, the proximity between the BEOG and IRS signature dates may not be the critical variable relative to accuracy. Rather, as discussed in succeeding sections, the absence of corrections may be a better

predictor of accuracy, and even applications submitted late in the year may also tend to be accurate if no corrections had been submitted to the original application.

Misreporting

Applications signed after May 15 revealed a higher rate of misreporting than applications signed prior to May 15. Although the majority of misreporting for all signature dates was comprised of understated income, applications signed after May 15 also showed a higher rate of overreported income.

Comparisons With All Eligibles

Applications signed before May 15 tended to have a higher rate of accuracy than was found for all eligibles; applications signed after May 15 revealed a lower accuracy rate.

Trends

- Applications signed later in the year tended to be less accurate than those submitted earlier in the year; however, this finding is confounded with the finding that applications with corrections, which by definition are submitted later in the year, also tended to be less accurate than other applications. Therefore decreased accuracy may be associated with a later signature date and/or the presence of corrections.

Source: 1000 Series AGI Table Nos. 5A1, 5A2, 5B1, 5B2

14. ELIGIBLES WHO SUBMITTED CORRECTIONS: ACCURACY OF ADJUSTED GROSS INCOME

The Basic Grant Program implements procedures during application processing that are designed to assure that the reported information meet minimal standards of completeness, logic, and consistency. Through a series of comments generated by computerized edits, the applicant may be advised to review the Student Eligibility Report and to provide additional information before application processing can continue. All applicants receive a general set of instructions advising them to review the data to be sure that all entries are correct, and to make corrections if any data are erroneous. Some applicants report information which triggers comments regarding the review and correction of specific data fields. As a result of this system, corrections may be submitted by the applicant in response to specific instructions to review a particular entry, or they may be submitted in response to the general instruction to review all of the data for accuracy and for validity.

One of the areas of analysis undertaken in this study focused on the accuracy of applications with corrections, and corrections submitted in response to specific messages on the SER. The following sections present the findings for applicants who met a variety of criteria associated with the corrections process.

14A. ELIGIBLES WITH DISCREPANCIES WHO HAD SUBMITTED CORRECTIONS: ACCURACY OF ADJUSTED GROSS INCOME

Percent of Eligibles With Discrepant AGI on Latest Record and Accurate AGI on Previous Record:	TOTAL	DEPENDENT	INDEPENDENT
UNDERREPORT ON LATEST RECORD	41.4	43.4	32.8
OVERREPORT ON LATEST RECORD	26.9	27.9	21.2
TOTAL DISCREPANCIES ON LATEST RECORD AND ACCURATE AGI ON PREVIOUS RECORD	68.3	70.3	54.0
TOTAL DISCREPANCIES ON LATEST RECORD AND NO ACCURATE AGI ON PREVIOUS RECORDS	31.7	29.7	46.0

Background

The purpose of this analysis was to determine whether or not applicants use the corrections processing system as a means to misreport in order to increase their eligibility. This issue was addressed by examining applications with corrections to determine whether the AGI on the initial application or any previous application was accurate in relation to the IRS AGI when there was a discrepancy between the AGI on the latest BEOG application and the AGI reported to IRS by the applicant.

Population

The population of applications with corrections and with discrepancies on the latest record is unknown. Nine percent of the eligibles in the matched sample met this criterion. However, the majority of these registered discrepancies which were not significant - that is, the BEOG-reported AGI was between one dollar and two hundred dollars from the IRS-reported AGI. Four percent had discrepancies greater than $200.

Accuracy

The majority of applicants who had submitted corrections and who had an AGI discrepancy greater than $200 on the latest record had reported the AGI accurately on a previous application. The findings show that more than two-thirds of the dependents meeting these criteria had changed AGI from correct to incorrect, and more than half of the independents had also done so.

Misreporting

The majority of applicants who had changed AGI from correct to incorrect understated AGI on their latest record. However, a substantial portion had made a correction that

resulted in decreased eligibility. This implies that although some applicants use the corrections processing system to abuse the program, others are committing errors that result in a reduction in their eligibility. Therefore, it may be possible that many corrections are being submitted because the applicant was confused about the application process and has not been successful in completing the application correctly.

Trends

- Applicants who changed AGI from correct to incorrect tended to submit corrections that increase eligibility more frequently.

- More dependents than independents were found to change AGI from correct to incorrect.

Source: 1000 Series AGI Table Nos 10A1, 10A2, 10B1, 10B2

3.41

14B. ELIGIBLES WHO SUBMITTED NO, ONE, TWO, AND MORE THAN TWO CORRECTIONS: ACCURACY OF ADJUSTED GROSS INCOME

	TOTAL	NO CORRECTIONS	AT LEAST 1 CORRECTION	AT LEAST 2 CORRECTIONS	MORE THAN 2 CORRECTIONS
UNDERREPORT	21.2	19.3	26.3	32.9	34.6
ACCURATE	71.3	73.7	64.7	57.8	57.5
OVERREPORT	7.5	7.0	9.0	9.4	7.9
% OF TOTAL	100.0	77.0	18.8	3.5	.7

Population Proportions

TOTAL	NO CORRECTIONS	AT LEAST ONE CORRECTION	AT LEAST TWO CORRECTIONS	MORE THAN TWO CORRECTIONS
100.0	71.3	22.9	4.7	1.2

Accuracy

Applicants who did not submit corrections were more accurate than those who did submit corrections. As the number of corrections increased, accuracy decreased. While almost three-fouths of the applicants who submitted corrections reported AGI accurately, slightly more than half of the applicants who submitted more than two corrections reported AGI accurately.

Misreporting

The majority of all misreporting for both applicants with and without corrections was in favor of increased eligibility. However, for applications with corrections, misreporting increased steadily toward increased eligibility, but misreporting which decreased eligibility, remained almost constant. This implies that the corrections processing system was being abused by some applicants.

Comparisons With All Eligibles

Applicants who did not submit corrections tended to be more accurate than all eligibles studied; applicants who submitted corrections were less accurate than all eligibles studied.

Trends

- Accuracy decreased as the number of corrections increased.
- Applicants who did not submit corrections were more accurate than all eligibles studied.

3.42

- Applicants who did submit corrections were less accurate than all eligibles studied.

- Applicants with corrections who misreported did so to increase eligibility at a higher rate than all eligibles who misreported.

Source: 1000 Series AGI Table Nos. 10E1, 10F1, 10G1, 10H1, 10I1, 10J1, 10K1, 10L1

3.43

14C. ELIGIBLES WHO HAD BEEN REJECTED FOR INCOME REASONS: ACCURACY OF ADJUSTED GROSS INCOME

	TOTAL	DEPENDENT	INDEPENDENT
UNDERREPORT	26.1	26.1	26.2
ACCURATE	60.4	60.5	59.9
OVERREPORT	13.4	13.4	13.8
% OF TOTAL	99.9	82.3	17.7

Background

One of the areas of inquiry in this study was the relationship between messages to the applicant triggered by particular edits, and the accuracy of AGI for applicants who had received these comments. A rejection comment is triggered only when an applicant fails to meet minimal standards of logic and consistency. These occur, for example, when an applicant reports no taxable or nontaxable income, or when the AGI reported is considerably smaller than the sum of the incomes reported for both parents. When a rejection edit is turned on, the eligibility index is not computed and the applicant is advised to provide the information in question before processing continues. Therefore, all applicants who were rejected for income reasons had to submit at least one correction to the original application.

Population Proportion

About five percent of the 1974-75 eligibles were rejected for income reasons.

Accuracy

About six out of every ten applicants rejected for income reasons provided an accurate AGI after receiving a rejection comment. Dependents and independents did not differ in accuracy.

Misreporting

Twice as many applicants rejected for income reasons understated their income than overstated their income. Dependents and independents who misreported did not vary in terms of proportions who understated and overstated income.

Comparisons With All Eligibles

Applicants who had been rejected for income reasons were found to be less accurate than all eligibles studied.

Dependents who were rejected for income reasons were considerably less accurate than all eligible dependents. Independents rejected for income reasons were similar in accuracy to all eligible independents.

Trends

- Applicants rejected for income reasons were less accurate than all eligibles studied.
- Whereas dependents tended to be more accurate than independents, both dependents and independents who had been rejected for income reasons were found to have similar rates of accuracy.

Source: 1000 Series AGI Table Nos. 7A, 7B

3.45

14D. ELIGIBLES WHO RECEIVED AN ASSUMED ADJUSTED GROSS INCOME AND DID NOT CHANGE IT: ACCURACY OF ADJUSTED GROSS INCOME

	TOTAL	DEPENDENT	INDEPENDENT
UNDERREPORT	60.9	53.9	75.1
ACCURATE	30.4	35.9	19.5
OVERREPORT	8.7	10.3	5.4
% OF TOTAL	100.0	66.9	33.1

Background

Assumption edits occur when an applicant has failed to supply key information that could be assumed logically from other information provided. For example, some applicants supply incomes for both parents, or for the independent applicant and spouse, but omit the adjusted gross income. In such cases, the sum of the incomes reported for the parents or the applicant and spouse is entered in the AGI field and is used in the computational formula for determining eligibility. When this occurs, a message is printed advising the applicant of the assumed value, and instructing him/her to correct it if it is erroneous.

Population Proportion

About two percent of the eligibles in 1973-74 received an assumed AGI value, and 73 percent of these did not change the assumed value.

Accuracy

The assumed AGI value provided for applicants who did not change it tended to be erroneous in the majority of cases. Fewer than one-third of the assumed AGI values that were not changed were accurate.

Misreporting

The majority of applicants in this group were found to have an erroneous AGI. The assumed AGI value provided for more than half of the dependents and more than three-fourths of the independents resulted in an income understatement. Overall, income understatements occurred seven times more frequently than income overstatements for this group.

Comparisons With All Eligibles

Applicants in this category were less accurate and tended to have income understatements much more frequently than all eligibles studied. The accuracy rate for both dependents

and independents in this group was about 40 percent lower than for all eligible dependents and independents studied.

Trends

- Assumed AGI values appeared to be incorrect for about 70 percent of applicants studied.

- Assumed AGI values may have resulted in increased eligibility for about 60 percent of the applicants receiving assumed AGIs.

Source: 1000 Series AGI Table Nos. 8A, 8B

3.47

14E. ELIGIBLES WHO RECEIVED AN ASSUMED ADJUSTED GROSS INCOME AND CHANGED IT: ACCURACY OF ADJUSTED GROSS INCOME

	TOTAL	DEPENDENT	INDEPENDENT
UNDERREPORT	33.8	32.6	38.5
ACCURATE	51.8	50.9	55.4
OVERREPORT	14.3	16.4	6.1
% OF TOTAL	100.0	79.4	20.5

Population Proportion

About two percent of the 1974-75 eligibles received an assumed AGI and 27 percent of these changed the assumed value.

Accuracy

About half of the applicants who changed an assumed AGI provided a correct AGI. The accuracy rate for independents was about five percent higher than for dependents.

Misreporting

One-third of the applicants in this category had income understatements. Although the percentage rate for independents who reported AGI accurately was higher than for dependents, independents had the higher frequency of income understatements.

Comparisons With All Eligibles

Applicants who changed an assumed AGI tended to be less accurate than all eligibles studied. The accuracy rate for dependents in this category was about 14 percent lower than for all dependents studied, for independents, the accurate rate was about 3 percent lower.

Trends

- About half of applicants who corrected an assumed AGI provided an inaccurate AGI.
- About one-third of all applicants in this category understated their income.

Source: 1000 Series AGI Table Nos. 9A, 9B

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14F. ELIGIBLES WHO HAD SUBMITTED NON-REQUESTED ADJUSTED GROSS INCOME CORRECTIONS: ACCURACY OF ADJUSTED GROSS INCOME

	TOTAL	DEPENDENT	INDEPENDENT
UNDERREPORT	39.5	38.7	41.0
ACCURATE	48.7	49.3	47.6
OVERREPORT	11.8	11.9	11.4
% OF TOTAL	100.0	66.6	33.3

Background

In addition to making a correction in response to a message requesting that the AGI value be reviewed, applicants may also submit a non-requested correction. Theoretically, this is allowed to enable the applicant to correct keypunch errors or errors made in completing the original application. The purpose of this analysis was to determine whether some applicants are using this system as a means of increasing eligibility.

Population Proportion

About four percent of the 1973-74 eligibles had submitted a correction to AGI that was not requested.

Accuracy

Less than half of the applicants in the study group who had submitted a non-requested AGI change reported AGI accurately. Dependents and independents did not vary in terms of accuracy. Thus, it appears that some applicants are abusing the system in order to increase eligibility for a Basic Grant.

Misreporting

The majority of applicants in this category who misreported income did so to increase eligibility. Four times as many applicants underreported AGI than overreported AGI. The proportion of AGI overstatements and understatements was similar for both dependents and independents.

Comparisons With All Eligibles

Applicants who made non-requested changes to AGI reported AGI less accurately than all eligibles studied. Twenty-five percent more of the dependents in this group misreported than all dependent eligibles. About ten percent more of the independents in this group misreported.

Trends

- Accuracy of AGI for applicants who submitted a non-requested AGI change was significantly lower than for all eligibles studied.
- About 40 percent of the applicants in this category submitted an income understatement as a non-solicited correction.
- Dependents in this category were much less accurate than all dependents studied.

Source: 1000 Series AGI Table Nos. 11A, 11B

5.30

15. INELIGIBLES: ACCURACY OF ADJUSTED GROSS INCOME

	TOTAL	DEPENDENT	INDEPENDENT
UNDERREPORT	8.4	7.6	13.6
ACCURATE	86.7	88.4	75.4
OVERREPORT	4.9	4.0	10.9
% OF TOTAL	100.0	87.0	13.0

Population Proportions

The population of 1974-75 ineligibles was comprised of 84 percent dependents and 16 percent independents.

Accuracy

More than eight out of every ten ineligibles reported income accurately. Dependents were more accurate than independents.

Misreporting

The majority of misreporting was underreporting. Twice as many dependents underreported than overreported. Independents did not vary greatly in the proportion who understated or overstated income.

Comparisons with All Eligibles

Ineligibles were more accurate than eligibles. Dependent ineligibles, like dependent eligibles, were more accurate than independents.

Comparisons with All Ineligibles

Dependents were more accurate than all ineligibles; independents were less accurate than all ineligibles.

Trends

- Ineligible dependents tended to report income more accurately than ineligible independents.
- Ineligibles were more accurate than eligibles.

Source: 2000 Series AGI Table No. 1

3.51

16. INELIGIBLE DEPENDENTS AT VARIOUS INCOME LEVELS: ACCURAC
ADJUSTED GROSS INCOME

	TOTAL	BEOG-Reported AGI: Less than $4,000	$4,000-$6,999	$7,000-$9,999	$10,000-$12,499	$12,500-$14,999	$15,000-$17,499	$17,
UNDERREPORT	7.6	12.3	6.1	8.8	9.1	6.5	8.5	6.
ACCURATE	88.4	83.7	86.0	87.2	87.0	90.6	87.7	89.
OVERREPORT	4.0	4.0	7.9	4.0	3.9	2.8	3.8	4.
% OF TOTAL	100.0	3.2	5.0	8.3	13.5	20.7	18.9	30.

Population Proportions

BEOG-Reported AGI:

Less than $4,000	$4,000-$6,999	$7,000-$9,999	$10,000-$12,499	$12,500-$14,999	$15,000-$17,499	$17,
5.5	5.4	8.4	13.2	19.7	18.3	29

Accuracy

The majority of applicants at every income level were acc
ate. Accuracy tended to increase as income increased. T
highest accuracy rates were found for applicants in this
category with incomes above $12,500, where 9 out of 10 re-
ported income accurately.

Misreporting

Ineligible dependents at low income levels tended to under
report more frequently than high income dependents. The
highest rate of overreporting AGI was found for ineligible
dependents reporting AGIs in the $4,000 to $6,999 range.

Comparisons with Eligibles

Ineligible dependents were more accurate than their eligib
counterparts at every income level. Underreporting tended
decrease as income increased for both eligible and ineligi
dependents.

Comparisons with All Ineligibles

Ineligible dependents with incomes below $6,999 were less
accurate than all ineligibles; ineligibles at all other in-
come levels were more accurate than all ineligibles.

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Trends

- Ineligible dependents tended to be more accurate than eligible dependents at all income levels.
- Accuracy tended to increase as income increased; low income dependent ineligibles were less accurate than high income dependent ineligibles.

Source: 2000 Series AGI Table No. 2A

5.55

17. INELIGIBLE INDEPENDENTS AT VARIOUS INCOME LEVELS: ACCURACY OF ADJUSTED GROSS INCOME

		BEOG-Reported AGI:				
	TOTAL	Less than $4,000	$4,000-$6,999	$7,000-$9,999	$10,000-$12,499	$12,500+
UNDERREPORT	13.6	21.8	10.6	11.0	7.3	5.1
ACCURATE	75.5	71.3	78.0	77.7	79.3	71.1
OVERREPORT	10.9	6.9	11.5	11.3	13.4	23.8
% OF TOTAL	100.0	3.1	36.0	19.2	6.9	6.5

Population Proportions

BEOG-Reported AGI:

Less than $4,000	$4,000-$6,999	$7,000-$9,999	$10,000-$12,499	$12,500+
28.9	27.8	19.9	11.7	11.7

Accuracy

About seven out of every ten ineligible independents reported income accurately. Independents in the $10,000 to $12,499 income interval were found to report income most accurately. Applicants in the lowest and highest income intervals reported AGI least accurately.

Misreporting

About one-fourth of the ineligible independents misreported income. Underreporting decreased as income increased and overreporting increased as income increased for this group.

Comparisons with Eligibles

Ineligible independents at every income level reported AGI more accurately than their eligible counterparts.

Trends

- Ineligible independents were more accurate than their eligible counterparts at every income level.
- Accuracy was lowest for independent ineligibles at the highest and lowest income intervals.
- For ineligible independents, underreporting decreased and overreporting increased as income increased.

Source: 2000 Series AGI Table No. 2B

18. INELIGIBLES AT VARIOUS INCOME LEVELS: ACCURACY OF ADJUSTED GROSS INCOME

		BEOG-Reported AGI:						
	TOTAL	Less than $4,000	$4,000-$6,999	$7,000-$9,999	$10,000-$12,499	$12,500-$14,999	$12,500-$17,499	$17,500+
UNDERREPORT	8.4	18.0	8.4	9.3	9.0	6.5	8.5	6.6
ACCURATE	86.7	76.3	81.8	84.8	86.5	89.8	87.7	89.2
OVERREPORT	4.9	5.7	9.8	5.9	4.6	3.8	3.8	4.2
% OF TOTAL	100.0	6.9	9.1	9.7	12.6	18.8	16.5	26.5

Population Proportions

BEOG-Reported AGI:

Less than $4,000	$4,000-$6,999	$7,000-$9,999	$10,000-$12,499	$12,500-$17,499	$17,500
9.2	8.9	10.2	13.0	18.5	24.8

Accuracy

Accuracy tended to increase as income increased. Seven out of every ten ineligibles with incomes below $4,000 were accurate; eight out of every ten ineligibles with incomes between $4,000 and $12,499 were accurate; and nine out of every ten ineligibles with incomes above $12,500 were accurate.

Misreporting

Low income applicants had the highest rate of misreporting. There were no strong patterns associated with overreporting, underreporting, and income level.

Comparisons with All Eligibles

Ineligibles were more accurate than eligibles at all income levels.

Comparisons with All Ineligibles

Ineligibles reporting incomes below $10,000 were less accurate than all ineligibles; those with incomes above $10,000 were more accurate than all ineligibles.

Trends

- Ineligibles were more accurate than eligibles at every income level.
- Accuracy tended to increase as income increased.
- The majority of misreporting tended to be underreporting.

Source: 2000 Series AGI Table Nos. 2A, 2B

3.3.2 Accuracy of Reporting Taxes Paid for Categories of Applicants

The purpose of this section is to present a brief discussion of the findings related to the accuracy of taxes paid[1/] for the various categories of applicants studied. The findings are presented in a standardized format, as shown in Exhibit 3.8. The order in which the categories of applicants appear in this section is as follows:

1. Eligible Dependents and Independents
2. Eligible Dependents at Various Income Levels
3. Eligible Independents at Various Income Levels
4. Eligible Dependents Reporting Various Amounts of Taxes
5. Eligible Independents Reporting Various Amounts of Taxes
6. Eligibles Submitting BEOG Applications Before and After April 15
7. Eligibles Filing IRS Declaration of Estimated Income
8. Eligibles Reporting Divorced/Widowed/Separated
9. Eligibles Who Were Rejected for Taxes Paid Reasons
10. Eligibles Who Submitted Non-Requested Corrections to Taxes Paid
11. Eligibles Who Submitted No, One, Two, and More Than Two Corrections
12. Ineligible Dependents and Independents

Highlights of the major findings and trends concerning accuracy of taxes paid follow:

Accuracy of Taxes Paid for Categories of Applicants

- In general ineligibles were more accurate than eligibles.
- Taxes paid were generally reported with fewer discrepancies and with smaller discrepancies than AGI.
- For eligibles, independents were more accurate than dependents; for ineligibles, the opposite was true.

[1/] In this section "accurate" is defined as the absolute difference between the IRS and BEOG reported taxes paid being $200 or less.

Eligibles only:

- Independents reported taxes paid more accurately than dependents; however more independents who misreported did so to increase their eligibility, whereas the majority of dependents who misreported did so to decrease eligibility.
- Accuracy decreased for independents as income increased. The most accurate reporters of taxes paid were low income applicants (who reported AGI least accurately).
- Overreporting taxes increased for all applicants as AGI increased.
- Accuracy decreased for independents as BEOG-reported taxes paid increased.
- Overreporting for all applicants increased as taxes paid increased.
- Applicants/parents who filed a declaration of estimated income to IRS reported taxes paid less accurately than all eligiblies studied.
- Applicants/parents who were rejected for taxes paid reasons were less accurate than the total study group.
- Accuracy decreased as the number of corrections increased.
- Accuracy of taxes paid did not appear to be related to BEOG signature date.

1. ELIGIBLE DEPENDENTS AND INDEPENDENTS: ACCURACY OF TAXES PAID

	TOTAL	DEPENDENT	INDEPENDENT
UNDERREPORT	13.9	15.4	7.0
ACCURATE	75.0	73.5	81.9
OVERREPORT	11.0	11.0	11.0
% OF TOTAL	99.9	82.4	17.5

Population Proportions

Dependents - 78.2%
Independents - 21.8%

Accuracy

Three-fourths of all eligibles reported taxes paid accurately. Independents were more accurate than dependents.

Misreporting

The majority of misreporting for dependents was underreporting, which decreases eligibility. The majority of misreporting for independents was overreporting, which increases eligibility.

Comparisons with All Eligibles

Dependents were less accurate than all eligibles, independents were more accurate than dependents.

Trends

- Independents reported taxes more accurately than dependents.
- The majority of taxes paid misreporting tended to decrease eligibility.

Source: 1000 series Taxes Paid Table No. 12

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2. ELIGIBLE DEPENDENTS AT VARIOUS INCOME LEVELS: ACCURACY OF TAXES PAID

		BEOG-Reported AGI:						
	TOTAL	Less than $4,000	$4,000-$6,999	$7,000-$9,999	$10,000-$12,499	$12,500-$14,999	$15,000-$17,499	$17,500+
UNDERREPORT	15.4	9.2	17.6	19.8	15.1	10.8	7.9	7.0
ACCURATE	73.6	85.4	71.0	68.6	72.0	75.8	76.5	73.9
OVERREPORT	11.0	5.3	11.3	11.6	12.9	13.4	15.5	19.0
% OF TOTAL	100.0	17.0	24.3	28.0	18.6	8.9	2.6	.6

Population Proportions

BEOG-Reported AGI:

Less than $4,000	$4,000-$6,999	$7,000-$9,999	$10,000-$12,499	$12,500-$14,999	$15,000-$17,499	$17,500+
35.9	20.8	21.3	13.4	6.8	1.8	.5

Accuracy

Applicants at the lowest income level reported taxes most accurately. Applicants with an income between $7,000 and $10,000 reported taxes least accurately.

Misreporting

The majority of underreporting occurred in the middle income levels. Applicants at the lowest and highest income intervals underreported least frequently. Overreporting taxes increased as income increased. The majority of misreporting taxes was underreporting for dependents with incomes above $12,500; for dependents with incomes above $12,500, the majority of misreporting was overreporting.

Comparisons with All Eligibles

Dependents with incomes below $4,000 had a higher rate of accuracy than all eligibles. Dependents in the income range between $4,000 and $12,500 reported taxes less accurately than all dependents; dependents with incomes below $4,000 and above $12,500 reported taxes more accurately than all dependents.

Trends

- Low income dependents tended to report taxes more accurately than all other dependents.
- Overreporting taxes tended to increase as income increased.

Source: 1000 series Taxes Paid Table No. 14A

3. ELIGIBLE INDEPENDENTS AT VARIOUS INCOME LEVELS: ACCURACY OF TAXES PAID

		BEOG-Reported AGI:			
	TOTAL	Less than $4,000	$4,000-$6,999	$7,000-$9,999	$10,000+
UNDERREPORT	7.0	6.3	9.3	8.4	*
ACCURATE	82.0	86.0	69.8	66.9	82.9
OVERREPORT	11.0	7.6	20.9	24.6	17.1
% OF TOTAL	100.0	75.7	19.7	4.4	.1

* insignificant amount

Population Proportions

BEOG-Reported AGI:

Less than $4,000	$4,000-$6,999	$7,000-$9,999	$10,000+
80.2	15.1	4.2	.4

Accuracy

The majority of independents reported taxes accurately. Independents with incomes below $4,000 reported taxes more accurately than independents at all other income levels. Independents in the $7,000 to $10,000 income range reported taxes least accurately.

Misreporting

The majority of misreporting for all independents was overreporting. Overreporting taxes occurred least frequently in the less than $4,000 interval, and most frequently in the $7,000 to $10,000 income interval. Most underreporting occurred in the $4,000 to $6,000 income interval.

Comparisons with All Eligibles

Independents with incomes below $4,000 and above $10,000 reported taxes more accurately than all eligibles and than all eligible independents. Independents in the income interval between $4,000 and $9,999 reported taxes less accurately than all eligibles and all eligible independents.

Trends

- The majority of independents at all income levels reported taxes accurately.
- The majority of misreporting for independents at all income levels was overreporting taxes which tends to increase eligibility.

4. ELIGIBLE DEPENDENTS REPORTING VARIOUS AMOUNTS OF TAXES: ACCURACY OF TAXES PAID

	BEOG-Reported Taxes									
	TOTAL	$0-$150	$151-$300	$301-$500	$501-$750	$751-$1,000	$1,001-$1,500	$1,501-$2,000	$2,001-$3,000	$3,000+
UNDERREPORT	15.4	23.1	17.5	13.6	11.0	9.0	7.9	7.5	6.7	*
ACCURATE	73.6	76.9	74.6	73.2	76.1	75.0	69.2	50.5	36.6	12.9
OVERREPORT	11.0	*	7.9	13.2	12.8	15.8	22.9	41.9	56.7	87.0
% OF TOTAL	100.0	34.4	9.9	12.6	14.5	12.0	12.0	3.3	.9	.1

* insignificant amount

Population Proportions

BEOG-Reported Taxes Paid:

$0-$150	$151-$300	$301-$500	$501-$750	$751-$1,000	$1,001-$1,500	$1,501-$2,000	$2,001-$3,000	$3,000+
31.2	7.9	9.6	10.4	8.8	8.7	2.4	.8	.2

Accuracy

Accuracy of taxes paid decreased as taxes paid increased. About seven out of every ten dependents reporting taxes below $1,500 reported accurately; five out of ten applicants reporting taxes between $1,501 and $2,000 reported accurately; and only one out of every ten applicants reporting taxes above $3,000 reported accurately.

Misreporting

Applicants reporting taxes below $300 tended to underreport more frequently than overreport; applicants reporting taxes above $300 tended to overreport more frequently than underreport. Underreporting decreased and overreporting increased as taxes paid increased.

Comparisons with All Eligibles

Dependents reporting taxes above $1,000 reported less accurately than all dependents and all eligibles. All other dependents reported taxes as accurately or more accurately than all dependents.

Trends

- Accuracy of taxes paid decreased as the amount of taxes paid increased.
- Underreporting decreased as taxes paid increased.
- Overreporting increased as taxes paid increased.

Source: 1000 series Taxes Paid Table No. 13A

5. INDEPENDENT ELIGIBLES REPORTING VARIOUS AMOUNTS OF TAXES: ACCURACY OF TAXES PAID

		BEOG-Reported Taxes Paid:						
	TOTAL	$0-$150	$151-$300	$301-$500	$501-$750	$751-$1,000	$1,001-$1,500	$1,500+
UNDERREPORT	6.9	8.5	4.0	3.6	2.2	. *	*	*
ACCURATE	82.0	91.4	70.9	56.4	52.1	42.8	29.9	*
OVERREPORT	11.0	*	25.0	39.9	45.6	57.2	70.0	100.0
% OF TOTAL	99.9	70.5	12.3	8.9	4.9	2.3	.9	.1

* insignificant amount

Population Proportions

BEOG-Reported Taxes Paid

$0-$150	$151-$300	$301-$500	$501-$750	$751-$1,000	$1,001-$1,500	$1,500+
79.5	7.9	6.1	3.8	1.8	.8	.1

Accuracy

Accuracy decreased as taxes paid increased. Nine out of every ten independents reporting taxes below $150 reported accurately; five out of every ten reporting taxes between $301 and $1,000 reported accurately and about three out of every ten reporting taxes above $1,000 were accurate.

Misreporting

The majority of misreporting for independents reporting taxes above $150 was overreporting. Underreporting decreased and overreporting increased as taxes paid increased.

Comparisons with All Eligibles

Independents reporting taxes below $150 were more accurate than all eligible independents. Independents reporting taxes above $150 reported less accurately than all eligibles.

Trends

- Accuracy decreased as taxes paid increased.
- Underreporting decreased as taxes paid increased.
- Overreporting increased as taxes paid increased.

Source: 1000 series Taxes Paid Table No. 15B

6. ELIGIBLES SUBMITTING BEOG APPLICATIONS BEFORE AND AFTER APRIL 15: ACCURACY OF TAXES PAID

	TOTAL	BEOG-Signature Date: PRIOR TO APRIL 15	AFTER APRIL 15
UNDERREPORT	13.9	14.4	13.8
ACCURATE	75.1	75.8	75.0
OVERREPORT	10.9	9.8	11.2
% OF TOTAL	99.9	16.0	84.0

Population Proportions

About 17 percent of the eligibles in the 1974-75 population who dated their application filed before April 15; the remainder signed their BEOG application after April 15.

Accuracy

Accuracy of taxes paid did not differ according to signature dates before and after April 15.

Misreporting

Overreporting and underreporting did not appear to be related to signature date.

Comparisons with All Eligibles

Accuracy of applications signed before and after April 15 were similar to accuracy of all eligibles.

Trends

- Accuracy of taxes paid did not appear to be related to BEOG signature dates before or after April 15.

Source: 1000 series Taxes Paid Table Nos. 17A1, 17A2

7. ELIGIBLES FILING IRS DECLARATION OF ESTIMATED INCOME: ACCURACY OF TAXES PAID

UNDERREPORT	50.6
ACCURATE	49.4
OVERREPORT	0.0
TOTAL	100.0

Background

Many taxpayers whose occupations are such that the annual income is not received in equal weekly or monthly intervals frequently file a declaration of estimated income. Accordingly, the taxpayer estimates his total earnings for a total year and withholds taxes at that rate instead of having taxes withheld relative to the various amounts of income received throughout the year. Persons receiving relatively large amounts of income infrequently, such as through sales or commissions, typically file a declaration of estimated income. Because many taxes paid errors result from taxes withheld being reported on the BEOG application, it was hypothesized that families filing declarations of estimated income would exhibit a lower accuracy rate.

Population Proportion

The proportion of applicants/parents filing a declaration of estimated income in the BEOG population is unknown. In the matched sample, fewer than one percent had filed a declaration of estimated income.

Accuracy

Fewer than half of the applicants filing a declaration of estimated income reported taxes accurately to BEOG.

Misreporting

More than half of the applicants filing a declration of estimated income underreported taxes.

Comparisons With All Eligibles

Applicants filing a declaration of estimated icome were less accurate in reporting taxes paid than all eligbles. This category underreported taxes more frequently than ll eligibles.

Trends

- The majority of applicants/parents filing a declaration of estimated income did not report taxes accurately.

Source: 1000 series Taxes Paid Table No. 18C

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8. ELIGIBLES REPORTING DIVORCED/WIDOWED/SEPARATED: [illegible] OF TAXES PAID

	IRS Filing Status:		
	TOTAL	JOINT	SEPARATE
UNDERREPORT	8.0	23.6	7.5
ACCURATE	79.1	62.8	79.8
OVERREPORT	12.9	13.6	12.9
% OF TOTAL	100.0	4.1	95.9

Population Proportions

About 36 percent of the eligible BEOG applicants reported a divorced/widowed/separated marital status in 1974-75.

Accuracy

Divorced/separated/widowed applicants and parents filing a separate IRS return were more accurate than those filing a joint IRS return.

Misreporting

More applicants reporting divorced/widowed/separated to BEOG and filing a joint return underreported taxes than overreported taxes. More applicants filing a separate return overreported than underreported.

Comparisons with All Eligibles

Applicants reporting divorced/widowed/separated reported taxes more accurately than all eligibles. Divorced/widowed/separated applicants filing joint returns were less accurate than all eligibles.

Trends

- Eligible applicants/parents who reported divorced/widowed/separated were more accurate than all eligibles.
- Eligible applicants/parents who reported divorced/widowed/separated were more accurate when a separate IRS return was filed rather than a joint IRS return.

Source: 1000 series Taxes Paid Table Nos. 18A1, 18A2, 18B1, 18B2

9. ELIGIBLES WHO WERE REJECTED FOR TAXES PAID REASONS: ACCURACY OF TAXES PAID

	TOTAL	DEPENDENT	INDEPENDENT
UNDERREPORT	15.8	16.8	5.1
ACCURATE	66.1	65.6	72.6
OVERREPORT	18.0	17.6	22.3
% OF TOTAL	99.9	91.9	8.0

Population Proportion

About six percent of all eligibles in 1974-75 were rejected for taxes paid reasons.

Accuracy

About two-thirds of all eligibles who had been rejected for taxes paid reasons submitted an accurate amount of taxes paid. Independents were more accurate than dependents, with seven out of ten reporting taxes accurately.

Misreporting

The majority of misreporting for this category of applicants was overreporting, although both types of inaccuracies were almost equal. About the same proportions of dependents over-reported and underreported. Four times as many independents overreported than underreported.

Comparisons with All Eligibles

Applicants who had to provide additional information about taxes paid before their application was processed were less accurate than all eligibles.

Trends

- Applicants rejected for taxes paid reasons were less accurate than all eligibles.
- Applicants rejected for taxes paid reasons tended to overreport more frequently than underreport.

Source: 1000 series Taxes Paid Table Nos. 19A, 19B

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10. ELIGIBLES WHO SUBMITTED NON-REQUESTED CORRECTIONS TO TAXES PAID: ACCURACY OF TAXES PAID

	TOTAL	DEPENDENT	INDEPENDENT
UNDERREPORT	16.3	19.2	8.9
ACCURATE	64.6	62.0	71.3
OVERREPORT	19.1	18.8	19.8
% OF TOTAL	100.0	72.3	27.7

Population Proportion

About two percent of the 1974-75 eligibles submitted non-requested corrections to taxes paid.

Accuracy

About two-thirds of applicants in this category reported taxes paid accurately. Dependents were less accurate than independents.

Misreporting

The majority of misreporting for this category was overreporting. However, slightly fewer dependents overreported than underreported. The majority of misreporting for independents was overreporting.

Comparisons With All Eligibles

Applicants who submitted non-requested corrections to taxes paid reported taxes less accurately than all eligibles.

Trends

- Eligibles who submitted non-requested corrections to taxes paid reported taxes less accurately than all eligibles.
- The majority of misreporting for this group was overreporting, which tends to increase eligibility.

Source: 1000 series Taxes Paid Table Nos. 21A, 21B

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11. ELIGIBLES WHO SUBMITTED NO, ONE, TWO, AND MORE THAN TWO CORRECTIONS: ACCURACY OF TAXES PAID

	TOTAL	NO CORRECTION	AT LEAST 1 CORRECTION	AT LEAST 2 CORRECTIONS	MORE THAN 2 CORRECTIONS
UNDERREPORT	11.7	11.0	13.6	16.0	14.1
ACCURATE	77.2	78.6	72.8	70.8	70.5
OVERREPORT	11.0	10.3	13.5	13.1	15.3
% OF TOTAL	99.9	77.0	18.8	3.5	.7

Population Proportions

NO CORRECTIONS	AT LEAST 1 CORRECTION	AT LEAST 2 CORRECTIONS	MORE THAN 2 CORRECTIONS
71.5	22.9	4.7	1.2

Accuracy

Applicants who did not submit corrections were more accurate than applicants who did submit corrections. Accuracy decreased as the number of corrections increased.

Misreporting

Applicants who misreported tended to underreport taxes more frequently than overreport taxes, regardless of whether corrections had been submitted.

Comparisons With All Eligibles

Applicants who did not submit corrections reported taxes more accurately than all eligibles. Applicants who did submit corrections were less accurate than all eligibles.

Trends

- Accuracy of taxes paid decreased as the number of corrections increased.
- Applicants who did not submit corrections were more accurate than all eligibles.

Source: 1000 series Taxes Paid Table Nos. 20E1, 20F1, 20G1, 20H1, 20I1, 20J1, 20K1, 20L1

12. INELIGIBLE DEPENDENTS AND INDEPENDENTS: ACCURACY OF TAXES PAID

	TOTAL	DEPENDENT	INDEPENDENT
UNDERREPORT	12.6	13.2	8.9
ACCURATE	79.0	79.6	74.4
OVERREPORT	8.4	7.2	16.7
% OF TOTAL	100.0	87.0	13.0

Population Proportions

The population of ineligibles was comprised of 84 percent dependents and 16 percent independents in 1974-75.

Accuracy

About eight out of every ten ineligibles reported taxes accurately. Dependents were more accurate than independents.

Misreporting

The majority of misreporting for all ineligibles was underreporting. This was consistent for dependents. Independents, however, tended to overreport taxes more frequently than underreport.

Comparisons With All Eligibles

Ineligibles reported taxes more accurately than eligibles. Ineligible independents, however, were less accurate than their eligible counterparts. Dependents did not differ greatly in accuracy from all ineligibles. Independents were slightly less accurate than all ineligibles.

Trends

- Ineligibles reported taxes more accurately than eligibles.
- Ineligible dependents were more accurate than independents. This was the reverse of the finding for eligibles.

Source: 2000 series Taxes Paid Table No. 12

3.3.3 Accuracy of Reporting Household Size for Categories of Applicants

The purpose of this section is to present a brief discussion of the findings related to the accuracy of household size[1/] for the various categories of applicants studied. The findings are presented in a standardized format, as shown in Exhibit 3.8. The order in which the categories of applicants appear in this section is as follows:

1. Eligible Dependents and Independents
2. Eligible Dependents at Various Income Levels
3. Eligible Independents at Various Income Levels
4. Eligible Dependents Reporting Various Household Sizes
5. Eligible Independents Reporting Various Household Sizes
6. Eligibles Reporting Divorced, Widowed, or Separated
7. Eligibles Reporting BEOG Household Sizes Equal to and Greater than BEOG Exemptions
8. Eligibles Who Submitted No, One, Two, and More than Two Corrections
9. Eligibles Who Changed Assumed Household Size
10. Eligibles Who Did Not Change an Assumed Household Size
11. Eligible Dependents Reporting Various Numbers of Exemptions
12. Eligible Independents Reporting Various Numbers of Exemptions
13. Ineligible Dependents and Independents

Highlights of major findings and trends concerning accuracy of household size follows:

Accuracy of Household Size for Categories of Applicants

- In general ineligibles reported household size more accurately than eligibles.
- In general, independents reported household size more accurately than dependents.
- Household size was reported more accurately than income.

[1/] In this section "accurate" is defined as the absolute difference between the IRS and BEOG reported household size being one or less.

Eligibles only:

- Applicants and parents reporting divorced/separated/widowed had a higher rate of misreporting than all eligibles studied.
- Dependents in middle income categories reported household size more accurately than any other dependents; accuracy of household size did not vary by income for independents.
- Accuracy decreased as size of household increased.
- Household size tended to be less accurate when it was larger than the number of exemptions reported to BEOG.
- Applicants who did not change assumed household size values were more accurate than the general population; applicants who did change assumed values were considerably less accurate.
- Accuracy of reported household size decreased as the number of corrections increased.

1. ELIGIBLE DEPENDENTS AND INDEPENDENTS: ACCURACY OF HOUSEHOLD SIZE

	TOTAL	DEPENDENT	INDEPENDENT
UNDERREPORT	.9	.8	1.2
ACCURATE	87.4	87.0	90.7
OVERREPORT	11.6	12.2	8.0
% OF TOTAL	99.9	86.0	13.9

Population Proportions

Dependents - 78.2%
Independents - 21.8%

Accuracy

About nine out of every ten eligibles reported household size accurately. Independents reported household size more accurately than dependents.

Misreporting

Overreporting household size occurred ten times as frequently as underreporting.

Comparisons With All Eligibles

Independents were more accurate than dependents and all eligibles.

Trends

- Independents reported household size more accurately than dependents.
- The majority of misreporting was overreporting, which serves to increase eligibility.

Source: 1000 series Household Size Table No. 23

2. ELIGIBLE DEPENDENTS AT VARIOUS INCOME LEVELS: ACCURACY OF HOUSEHOLD SIZE

		BEOG-REPORTED ADJUSTED GROSS INCOME:						
	TOTAL	LESS THAN $4,000	$4,000-$6,999	$7,000-$9,999	$10,000-$12,499	$12,500-$14,999	$15,000-$17,499	$17,500+
UNDERREPORT	.8	.8	.8	.9	.8	.3	.2	*
ACCURATE	86.9	76.2	84.2	89.8	91.9	91.8	89.2	87.3
OVERREPORT	12.1	22.8	14.8	9.1	7.1	7.8	10.4	12.6
% OF TOTAL	99.8	15.3	24.2	28.6	19.2	9.2	2.6	.6

*Insignificant amount

Population Proportions

BEOG-Reported Adjusted Gross Income:

Less than $4,000	$4,000-$6,999	$7,000-$9,999	$10,000-$12,499	$12,500-$14,999	$15,000-$17,499	$17,500+
35.9	20.8	21.3	13.4	6.8	1.8	.5

Accuracy Rates

About nine out of every ten dependents reporting adjusted gross income above $7,000 reported household size accurately. About eight out of every ten dependents reporting an income below $7,000 reported household size accurately.

Misreporting

The majority of misreporting for household size was overreporting. Applicants at the lowest income levels overreported most frequently and applicants in the middle income ranges overreported relatively less frequently than dependents at low and high income levels.

Comparisons With All Eligibles

Dependents reporting incomes below $7,000 reported household size less accurately than all eligibles. Dependents with incomes above $7,000 reported household size more accurately than all eligibles.

Trends

- Dependents with incomes below $7,000 reported household size less accurately than all other dependents.
- The majority of misreporting household size at every income level was overreporting, which increased eligibility.

Source: 1000 series Household Size Table No. 24A

3. ELIGIBLE INDEPENDENTS AT VARIOUS INCOME LEVELS: ACCURACY OF HOUSEHOLD SIZE

		BEOG-REPORTED ADJUSTED GROSS INCOME:			
	TOTAL	LESS THAN $4,000	$4,000-$6,999	$7,000-$9,999	$10,000+
UNDERREPORT	1.1	1.1	1.0	1.0	*
ACCURATE	90.8	90.8	90.3	91.1	100.0
OVERREPORT	8.0	7.9	8.5	7.2	*
% OF TOTAL	99.9	70.7	23.4	5.5	.3

* Insignificant amount

Population Proportions

BEOG-Reported Adjusted Gross Income:			
Less than $4,000	$4,000-$6,999	$7,000-$9,999	$10,000+
80.2	15.1	4.2	.4

Accuracy

There was very little variance in accuracy of household size for independents at different income levels, with the exception of the highest income category. About nine out of every ten independents reported household size accurately.

Misreporting

The majority of misreporting at every income level was overreporting, which tended to increase eligibility.

Comparisons With All Eligibles

Independents reported household size more accurately than all eligibles.

Trends

- Accuracy of household size showed no significant relationship to income for independents.
- The majority of misreporting household size at every income level was overreporting, which tends to increase eligibility.

Source: 1000 series Household Size Table No. 24B

4. ELIGIBLE DEPENDENTS REPORTING VARIOUS HOUSEHOLD SIZES: ACCURACY OF HOUSEHOLD SIZE

	BEOG-REPORTED HOUSEHOLD SIZE:									
	TOTAL	1	2	3	4	5	6	7	8	8+
UNDERREPORT	.8	*	1.6	1.2	.8	.6	.7	.8	.5	.7
ACCURATE	86.9	100.0	98.3	91.4	89.8	88.8	87.5	82.7	79.8	70.8
OVERREPORT	12.1	*	*	7.4	9.4	10.4	11.8	16.5	19.6	28.5
% OF TOTAL		.1	6.1	13.7	19.1	19.6	15.6	10.4	6.6	8.5

*Insignificant amount

Population Proportions

BEOG-Reported Household Size:								
1	2	3	4	5	6	7	8	8+
.1	7.3	14.2	18.3	18.4	14.9	10.3	6.7	9.8

Accuracy

Nearly all dependents reporting household sizes of two or less were found to report household size accurately. Accuracy decreased as household size increased, and only seven out of every ten dependents reporting a household size above eight were accurate.

Misreporting

Except for dependents reporting a household size of two or less, the majority of all other dependents who misreported tended to overreport. Overreporting increased as household size increased.

Comparisons With All Eligibles

Dependents reporting household sizes below four were more accurate than all eligibles; dependents reporting household sizes between four and six had a rate of accuracy similar to that for all eligibles; and dependents with household sizes above six were less accurate than all eligibles.

Trends

- Accuracy decreased as reported household size increased.
- Overreporting increased as household size increased.

Source: 1000 series Household Size Table No. 25A

5. ELIGIBLE INDEPENDENTS REPORTING VARIOUS HOUSEHOLD SIZES: ACCURACY OF HOUSEHOLD SIZE

	BEOG-REPORTED HOUSEHOLD SIZE:									
	TOTAL	1	2	3	4	5	6	7	8	8+
UNDERREPORT	1.1	1.3	1.2	1.1	.6	1.8	1.1	*	*	*
ACCURATE	90.9	98.7	98.8	82.7	80.0	76.6	79.8	67.5	71.0	37.2
OVERREPORT	8.0	*	*	16.2	19.4	21.6	19.1	32.4	29.0	62.7
% OF TOTAL	100.0	32.2	26.4	19.9	11.1	5.2	2.5	1.3	.4	.6

* Insignificant amount

Population Proportions

BEOG-Reported Household Size:

1	2	3	4	5	6	7	8	8+
26.2	25.0	21.6	13.5	6.9	3.5	1.7	.8	.8

Accuracy

Nearly all independents reporting household sizes of one or two were accurate. Accuracy decreased as household size increased, with only four out of every ten independents with a household size above eight reporting household size accurately.

Misreporting

Except for independents with household sizes of two or less, the majority of misreporting was overreporting. Overreporting tended to increase as household size increased.

Comparisons With All Eligibles

Independents reporting household sizes of one or two were more accurate than all eligibles. All other independents were less accurate than all eligibles.

Trends

- Accuracy decreased as household size increased.
- Overreporting increased as household size increased.
- Nearly all independents reporting household sizes of one or two reported household size accurately.

Source: 1000 series Household Size Table No. 25D

6. ELIGIBLES REPORTING DIVORCED, WIDOWED, OR SEPARATED: ACCURACY OF HOUSEHOLD SIZE

	IRS FILING STATUS:		
	TOTAL	JOINT	SEPARATE
UNDERREPORT	1.1	11.3	.7
ACCURATE	81.6	80.5	81.6
OVERREPORT	17.3	8.1	17.6
% OF TOTAL	100.0	3.4	96.6

Population Proportions

Thirty-six percent of the eligible BEOG applicants reported a divorced/widowed/separated marital status in 1974-75.

Accuracy

About eight out of every ten dependents reporting a divorced/widowed/separated marital status reported household size accurately. Dependents' parents who filed joint and separate returns did not vary in accuracy.

Misreporting

The rate of misreporting did not differ significantly for dependents' parents who filed joint and separate returns. The majority of parents filing a separate return tended to overreport, while the majority of parents filing a separate return tended to underreport household size. Thus, it appears that many parents filing separate returns may have reported children to BEOG who they did not claim as exemptions, while parents who filed a joint return with the estranged spouse or a new spouse failed to report all children who had been claimed as exemptions by both joint filers. These apparent discrepancies may be attributed to the particulars of individual divorce settlements, which sometimes specify that children residing with one parent are claimed by the other parent. Accordingly, many of these "apparent" discrepancies may indeed be accurate, and in fact, the overall rate of accuracy of household size may be higher than evidenced by the results of this study.

Comparisons With All Eligibles

Dependents whose parents reported a divorced, separated, or widowed marital status tended to report household size less accurately than all eligibles.

Trends

- Eligibles reporting divorced, separated, or widowed tended to report household size less accurately than all eligibles.
- The accuracy rate for divorced, separated, widowed parents did not vary in relation to the IRS filing status.

Source: 1000 series Household Size Table Nos. 28A, 28B

3.81

7. ELIGIBLES REPORTING BEOG HOUSEHOLD SIZES EQUAL TO AND GREATER THAN BEOG EXEMPTIONS: ACCURACY OF HOUSEHOLD SIZE

	BEOG-REPORTED HOUSEHOLD SIZE:		
	TOTAL	EQUALS EXEMPTIONS	GREATER THAN EXEMPTIONS
UNDERREPORT	.6	.6	.7
ACCURATE	87.4	95.0	64.9
OVERREPORT	11.9	4.3	34.3
% OF TOTAL	99.9	74.7	25.2

Population Proportions

BEOG-Reported Household Size:		
Less than Exemptions	Equal to Exemptions	Greater than Exemptions
8.9	52.6	38.5

Accuracy

Eligibles who reported household size equal to exemptions were more accurate than applicants who reported household size greater than exemptions. Only six out of every ten reporting a household size greater than exemptions reported household size accurately, while nine out of every ten who reported household size equal to exemptions were found to report household size accurately.

Comparisons With All Eligibles

Applicants reporting the same household size as exemptions were found to report household size more accurately than all eligibles. Applicants who reported a larger household size than exemptions were less accurate than all eligibles and tended to overreport household size more frequently than all eligibles.

Trends

- Applicants who reported a household size equal to exemptions reported household size more accurately than all eligibles studied.
- Applicants who reported a household size greater than exemptions tended to report household less accurately than all eligibles studied.
- Applicants who reported a household size greater than exemptions tended to overreport household size more often than all eligibles studied.

Source: 1000 series Household Size Table Nos. 30A, 30B

8. ELIGIBLES WHO SUBMITTED NO, ONE, TWO, AND MORE THAN TWO CORRECTIONS: ACCURACY OF HOUSEHOLD SIZE

	TOTAL	NO CORRECTIONS	AT LEAST 1 CORRECTION	AT LEAST 2 CORRECTIONS	MORE THAN 2 CORRECTIONS
UNDERREPORT	.9	.8	1.0	1.8	1.2
ACCURATE	87.5	88.2	85.5	82.8	82.7
OVERREPORT	11.6	11.0	13.4	15.2	15.9
% OF TOTAL	100.0	77.5	18.4	3.4	.7

Population Proportions

No Corrections	At Least One Correction	At Least Two Corrections	More Than Two Corrections
71.5	22.9	4.7	1.2

Accuracy

Applicants who did not submit corrections were found to be more accurate than those who did submit corrections. As the number of corrections increased, accuracy of household size decreased.

Misreporting

The majority of misreporting household size was overreporting, regardless of the number of corrections. Underreporting did not vary greatly as the number of corrections increased; however, the rate of overreporting tended to increase as the number of corrections increased.

Comparisons With All Eligibles

Applicants who did not submit corrections reported household size slightly more accurately than all eligibles studied. Applicants who submitted corrections were less accurate than all eligibles studied.

Trends

- Accuracy of household size decreased as the number of corrections increased.
- Applicants who did not submit corrections were more accurate than all eligibles studied.

Source: 1000 series Household Size Table Nos. 29E1, 29F1, 29G1, 29H1, 29I1, 29J1, 29K1, 29L1

3.83

9. ELIGIBLES WHO CHANGED ASSUMED HOUSEHOLD SIZE: ACCURACY OF HOUSEHOLD SIZE

	TOTAL	DEPENDENT	INDEPENDENT
UNDERREPORT	*	*	*
ACCURATE	56.2	69.0	51.7
OVERREPORT	43.7	30.9	48.2
% OF TOTAL	99.9	25.9	74.0

* Insignificant amount

Population Proportions

About three percent of the 1974-75 eligibles received an assumed household size value, and about 27 percent of these changed the assumed value.

Accuracy

Two-thirds of the dependents and half of the independents in this category changed an assumed household size to provide a correct household size. Overall about half of the applicants who changed an assumed household size provided an accurate household size.

Misreporting

Virtually all misreporting for applicants in this category was overreporting.

Comparisons With All Eligibles

Applicants who changed an assumed household size tended to be less accurate than all eligibles studied. The accuracy rate was more than 30 percent lower for this group than for all eligibles studied.

Trends

- Slightly more than half of the applicants who changed an assumed household size provided a correct household size.
- More than 40 percent of the applicants in this category overreported household size.

Source: 1000 series Household Size Table No. 27A, 27B

10. ELIGIBLES WHO DID NOT CHANGE AN ASSUMED HOUSEHOLD SIZE: ACCURACY OF HOUSEHOLD SIZE

	TOTAL	DEPENDENT	INDEPENDENT
UNDERREPORT	1.0	3.2	.6
ACCURATE	96.6	90.4	97.7
OVERREPORT	2.2	6.2	1.5
% OF TOTAL	99.8	14.1	85.8

Population Proportions

Approximately three percent of the 1974-75 eligibles received an assumed household size value and 73 percent of these did not alter the assumed value.

Accuracy

The assumed household size value provided for applicants who did not alter it was correct for 97 percent of the applicants in this category. Assumed household sizes provided for dependents were less accurate than those provided for independents.

Misreporting

The majority of assumed household sizes that had been misreported were overstatements of the household size according to the IRS data.

Comparisons With All Eligibles

Both dependents and independents in this category tended to be more accurate than all eligibles studied.

Trends

- Assumed household sizes tended to be correct for about 97 percent of the applicants who did not alter the assumed value.

Source: 1000 series Household Size Table No. 26A, 26B

11. ELIGIBLE DEPENDENTS REPORTING VARIOUS NUMBERS OF EXEMPTIONS: ACCURACY OF EXEMPTIONS

		BEOG-REPORTED EXEMPTIONS:								
	TOTAL	1	2	3	4	5	6	7	8	8+
UNDERREPORT	3.1	10.4	6.7	3.8	2.9	2.1	1.9	2.0	1.6	1.5
ACCURATE	94.1	89.5	93.1	93.9	94.4	95.1	95.3	94.5	93.6	91.5
OVERREPORT	2.8	*	.1	2.1	2.6	2.6	2.6	3.3	4.7	7.0
% OF TOTAL	100.0	3.3	8.1	14.4	18.6	18.6	14.7	9.3	5.7	6.8

* Insignificant amount

Population Proportions

BEOG-Reported Exemptions:

1	2	3	4	5	6	7	8	8+
3.5	8.2	14.6	18.3	18.3	14.4	9.5	5.9	7.4

Accuracy

More than nine out of every ten dependents reported the same number of exemptions to Basic Grants as they did to IRS. Dependents with one exemption were least accurate, and dependents with four to seven exemptions were most accurate.

Misreporting

Misreported exemptions were divided almost evenly to overreporting and underreporting. Dependents reporting few exemptions had the highest rates of underreporting, and dependents reporting most exemptions had the highest rate of overreporting.

Trends

- Exemptions tended to be reported more accurately than household size by dependents.
- More than nine out of every ten dependents reported exemptions accurately.
- Dependents with four to six exemptions reported exemptions more accurately than all other dependents.

Source: 1000 series Household Size Table No. 31A

12. ELIGIBLE INDEPENDENTS REPORTING VARIOUS NUMBERS OF EXEMPTIONS: ACCURACY OF EXEMPTIONS

		BEOG-REPORTED EXEMPTIONS:								
	TOTAL	1	2	3	4	5	6	7	8	8+
UNDERREPORT	.9	.8	1.1	.8	1.2	1.1	*	*	*	*
ACCURATE	96.1	99.1	98.9	91.2	89.5	90.5	93.4	89.1	100.0	71.2
OVERREPORT	2.9	0	*	7.9	9.1	8.3	6.5	10.8	*	28.7
% OF TOTAL	99.9	42.3	23.2	16.9	9.3	4.2	2.1	.9	.3	.3

* Insignificant amount

Population Proportions

BEOG-Reported Exemptions:

1	2	3	4	5	6	7	8	8+
33.6	22.9	19.5	12.0	6.2	3.1	1.5	.7	.6

Accuracy

Overall, more than 96 percent of the independents reported exemptions accurately. Almost all independents reporting one or two exemptions were accurate. Independents reporting more than eight exemptions evidenced the lowest accuracy level.

Misreporting

Excepting independents with one or two exemptions, the majority of misreporting was overreporting.

Trends

- Exemptions tended to be reported more accurately than household size by independents.
- More than nine out of every ten independents reported exemptions accurately.
- Independents reporting one or two exemptions reported more accurately than all other independents.

Source: 1000 series Household Size Table No. 31B

13. INELIGIBLE DEPENDENTS AND INDEPENDENTS: ACCURACY OF HOUSEHOLD SIZE

	TOTAL	DEPENDENTS	INDEPENDENTS
UNDERREPORT	.4	.5	1.2
ACCURATE	96.1	96.0	97.3
OVERREPORT	3.4	3.7	1.6
% OF TOTAL	99.9	88.6	11.4

Population Proportions

The population of ineligibles in 1974-75 was comprised of 84 percent dependents and 16 percent independents.

Accuracy

More than nine out of every ten ineligibles reported household size accurately. Independents were slightly more accurate than dependents.

Misreporting

The majority of misreporting for all ineligibles was overreporting, independents, however, tended to overreport and underreport with approximately the same frequency.

Comparisons with All Eligibles

Ineligibles reported household size more accurately than eligibles. Independents were more accurate than dependents in both the eligible and ineligible groups studied.

Comparisons with All Ineligibles

Independents reported household size more accurately than dependents.

Trends

- 96 percent of ineligibles reported household size accurately.
- Ineligibles reported household size more accurately than eligibles.
- Independents reported household size more accurately than dependents in both the eligible and ineligible groups studied.

Source: 2000 series Household Size Table No. 23

3.3.4 Impact of IRS-Reported Adjusted Gross Income, Taxes Paid, and Household Size on BEOG Eligibility

The purpose of this section is to present a brief discussion of the impact[1/] of substituting IRS-reported data into the formula for determining Basic Grant eligibility. The findings are presented in a standard format, similar to that shown in Exhibit 3.8. The order in which the findings appear in this section is as follows:

1. Eligible Dependents and Independents: Results of Substituting IRS Adjusted Gross Income into Formula for Determining BEOG Eligibility
2. Eligible Dependents at Various Income Levels: Results of Substituting IRS Adjusted Gross Income into Formula for Determining BEOG Eligibility
3. Eligible Independents Reporting Various Amounts of Adjusted Gross Income: Results of Substituting IRS Adjusted Gross Income into Formula for Determining BEOG Eligibility
4. Eligible Dependents and Independents: Results of Substituting IRS Adjusted Gross Income and Taxes Paid into Formula for Determining BEOG Eligibility
5. Eligible Dependents and Independents: Results of Substituting IRS Adjusted Gross Income, Taxes Paid, and Household Size into the Formula for Determining BEOG Eligibility
6. Eligibles: Comparison of Substituting IRS Adjusted Gross Income, Taxes, and Household Size into Formula for Determining BEOG Eligibility
7. Ineligible Dependents and Independents: Results of Substituting IRS Adjusted Gross Income into Formula for Determining BEOG Eligibility
8. Ineligible Dependents and Independents: Results of Substituting IRS Adjusted Gross Income and Taxes Paid into the Formula for Determining Eligibility
9. Ineligible Dependents and Independents: Results of Substituting IRS Adjusted Gross Income, Taxes Paid, and Household Size into the Formula for Determining Eligibility
10. Ineligibles: Comparison of Substituting IRS Adjusted Gross Income, Taxes, and Household Size into Formula for Determining BEOG Eligibility

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[1/] In this section "no change" is defined as the absolute difference between the eligibility index calculated from the IRS data and the index calculated from the BEOG data being 200 points or less.

Highlights of major findings and trends concerning the effect of substituting IRS data for BEOG data into the formula for determining eligibility follow:

- For both eligibles and ineligibles, substitution of IRS data impacted more on independents than on dependents.
- Eligibles tended to be impacted more than ineligibles, and more eligibles than ineligibles would have had a reduction in eligibility, had IRS data been used in determining eligibility.
- Increasing the number of data items substituted for BEOG reported data increased eligibility changes for both eligibles and ineligibles.
- Substitution of taxes paid impacted greater on ineligibles than eligibles.
- Household size and income substitutions yielded the strongest effects on altering the eligibility on both eligibles and ineligibles.
- For both ineligibles and eligibles, income and household size discrepancies resulted in eligibility decreases more frequently than eligibility increases.
- For ineligibles, taxes paid discrepancies resulted in eligibility increases more often than eligibility decreases. For eligibles, taxes paid discrepancies effected eligibility increases and decreases at about the same level.

1. ELIGIBLE DEPENDENTS AND INDEPENDENTS: RESULTS OF SUBSTITUTING IRS ADJUSTED GROSS INCOME INTO FORMULA FOR DETERMINING BEOG ELIGIBILITY

	TOTAL	DEPENDENT	INDEPENDENT
DECREASED ELIGIBILITY	11.5	9.7	19.8
NO CHANGE	86.2	88.3	76.3
INCREASED ELIGIBILITY	2.3	2.0	3.9
PERCENT OF TOTAL	100.0	82.4	17.6

Population Proportions

Dependents - 78.2%
Independents - 21.8%

No Change in Eligibility

More than eight out of ten BEOG applicants would have received an eligibility index within 200 points of that contained on their BEOG record if the adjusted gross income reported to IRS had been used in determining eligibility. About nine out of every ten dependents would have had the same eligibility (+ 200 points had the IRS reported AGI been used in determining eligibility, and about three-fourths of the independents would have had the same eligibility within 200 points.

Changes in Eligibility

The majority of the changes in eligibility were eligibility decreases. Independents were found to have decreased eligibility relatively more frequently than dependents.

Comparisons with All Eligibles

The substitution of the IRS income into the formula for determining BEOG eligibility showed that relatively fewer dependents had a different eligibility status than all eligibles studied. Relative to all eligibles studied, a greater proportion of independents were found to have changes in eligibility.

Trends

- The substitution of the IRS adjusted gross income into the formula for determining BEOG eligibility revealed that nine out of every ten eligibles would have received the same eligibility index, within 200 points.
- Dependents were found to have no change in eligibility relatively more frequently than all eligibles and independents.
- Independents were found to have changed eligibility by more than 200 points more frequently than all dependents and all eligibles.
- The majority of eligibility index changes for both dependents and independents was to decrease eligibility.

Source: 1000 series AGI Substitution Table No. 101

2. ELIGIBLE DEPENDENTS AT VARIOUS INCOME LEVELS: RESULTS OF SUBSTITUTING IRS ADJUSTED GROSS INCOME INTO FORMULA FOR DETERMINING BEOG ELIGIBILITY

		BEOG-REPORTED AGI:						
	TOTAL	Less than $4,000	$4,000-$6,999	$7,000-$9,999	$10,000-$12,499	$12,500-$14,999	$15,000-$17,499	$17,500+
DECREASED ELIGIBILITY	9.7	8.9	7.8	11.1	11.6	8.8	8.0	4.3
NO CHANGE	88.3	90.6	91.0	86.4	85.5	88.6	87.8	91.5
INCREASED ELIGIBILITY	2.0	.6	1.2	2.5	2.9	2.6	4.1	4.1
% OF TOTAL	100.0	17.0	24.3	28.0	18.6	8.9	2.6	.6

Population Proportions

BEOG-Reported AGI:

Less than $4,000	$4,000-$6,999	$7,000-$9,999	$10,000-$12,499	$12,500-$14,999	$15,000-$17,499	$17,500+
35.9	20.1	21.3	13.4	6.2	1.8	.5

No Change in Eligibility

Dependents reporting incomes below $7,000 and above $17,000 showed the least amount of eligibility index change when the IRS income was substituted into the formula for determining eligibility. Dependents reporting incomes between $7,000 and $10,000 showed the highest frequency of change in eligibility.

Changes in Eligibility

The majority of eligibility index changes for applicants at all income levels were eligibility decreases. Increases in eligibility tended to become larger as the amount of adjusted gross income reported to BEOG increased.

Comparisons with All Eligibles

All dependents, except for those in the $7,000 to $12,500 income interval, tended to have no change in eligibility more frequently than all eligibles studied.

Trends

- Low income dependents, who showed the lowest accuracy of all dependents in reporting income, were least affected by the substitution of the income reported to IRS.
- Substituting the IRS income into the formula for determining BEOG eligibility resulted in the most change in eligibility for dependents in the $7,000 to $12,500 income interval.
- Increases in eligibility resulting from the IRS data tended to occur more frequently as income increased.

Source: 1000 series AGI Substitution Table No. 102

3. ELIGIBLE INDEPENDENTS REPORTING VARIOUS AMOUNTS OF ADJUSTED GROSS INCOME: RESULTS OF SUBSTITUTING IRS ADJUSTED GROSS INCOME INTO FORMULA FOR DETERMINING BEOG ELIGIBILITY

	BEOG-REPORTED AGI:				
	TOTAL	LESS THAN $4,000	$4,000-$6,999	$7,000-$9,999	$10,000+
DECREASED ELIGIBILITY	19.8	22.5	11.0	12.7	*
NO CHANGE	76.3	74.8	81.4	79.2	100.0
INCREASED ELIGIBILITY	3.9	2.7	7.6	8.1	*
% OF TOTAL	100.0	75.6	19.7	4.5	.2

*Insignificant amount

Population Proportions

BEOG-Reported AGI:

Less than $4,000	$4,000-$6,999	$7,000-$9,999	$10,000+
80.2	15.1	4.2	.4

No Change in Eligibility

Independents with incomes above $4,000 showed the least change in eligibility, based upon the IRS data. Those with incomes below $4,000 changed eligibility most frequently.

Changes in Eligibility

The majority of changes in eligibility resulted in a decrease in eligibility. However, for independents reporting incomes below $4,000, eligibility decreases occurred about 10 times as often as eligibility increases; for independents reporting incomes above $4,000, decreases occurred less than twice as often as increases.

Comparisons with All Eligibles

Independents at all income levels showed changes in eligibility more often than was found for all eligibles. More independents reporting incomes below $4,000 had a decreased eligibility than did all eligibles studied. Independents with incomes above $4,000 were found to have increased eligibility more than all eligibles studied.

Trends

- Independents with incomes below $4,000 were found to have changes in eligibility more frequently than all other independents.
- Independents with incomes below $4,000 had decreased eligibility, based on income reported to IRS, more frequently than all other independents.

Source: 1000 series AGI Substitution Table No. 103

4. ELIGIBLE DEPENDENTS AND INDEPENDENTS: RESULTS OF SUBSTITUTING IRS ADJUSTED GROSS INCOME AND TAXES PAID INTO FORMULA FOR DETERMINING BEOG ELIGIBILITY

	TOTAL	DEPENDENT	INDEPENDENT
DECREASED ELIGIBILITY	12.1	10.1	21.6
NO CHANGE	85.5	87.8	74.6
INCREASED ELIGIBILITY	2.4	2.1	3.8
% OF TOTAL	100.0	82.4	17.6

Population Proportions

Dependents - 78.2%
Independents - 21.8%

No Change in Eligibility

More than eight out of every ten eligibles studied showed a change of 200 points or less when the IRS adjusted gross income and taxes paid were substituted into the formula for determining eligibility. Dependents had relatively fewer changes than independents.

Changes in Eligibility

The majority of all changes resulting from IRS income and taxes paid for the BEOG data were decreases in eligibility.

Comparisons with All Eligibles

Relatively fewer dependents changed eligibility than all eligibles studied; relatively more independents were found to have changed eligibility than all eligibles studied.

Trends

- More than eight out of every ten eligibles studied did not change eligibility (by more than 200 points) when the IRS income and taxes were used to determine eligibility.
- Almost nine out of every ten dependents studied did not change eligibility (by more than 200 points) when the IRS income and taxes were used to determine eligibility.
- More than seven out of every ten independents studied did not change eligibility (by more than 200 points) when the IRS income and taxes were used to determine eligibility.
- The majority of eligibles whose eligibility changed when the IRS income and taxes were used to determine eligibility were found to have decreased eligibility.

Source: 1000 series AGI and TP Substitution Table No. 101

5. ELIGIBLE DEPENDENTS AND INDEPENDENTS: RESULTS OF SUBSTITUTING IRS ADJUSTED GROSS INCOME, TAXES PAID, AND HOUSEHOLD SIZE INTO THE FORMULA FOR DETERMINING BEOG ELIGIBILITY

	TOTAL	DEPENDENT	INDEPENDENT
DECREASED ELIGIBILITY	24.3	21.0	39.5
NO CHANGE	73.2	76.8	56.3
INCREASED ELIGIBILITY	2.5	2.2	4.2
% OF TOTAL	100.0	82.4	17.6

Population Proportions

Dependents - 78.2%
Independents - 21.8%

No Changes in Eligibility

About three-fourths of the 1974-75 eligibles studied would have received the same eligibility index (within 200 points), had the IRS-reported adjusted gross income, taxes paid, and household size been used in the determination. For dependents studied, about three-fourths were found to have no change, while more than half of the independents would have showed no change.

Changes in Eligibility

The majority of changes in eligibility resulting from the substitution of the IRS income, taxes, and household size were changes to decrease eligibility. About one-fifth of the dependents and one-third of the independents studied had decreases in eligibility.

Trends

- About three-fourths of the eligibles studied would not have altered their eligibility if the IRS income, taxes, and household size had been used to determine eligibility.
- More than three-fourths of the dependents studied had no change in eligibility when the IRS income, taxes paid, and household size were used to determine eligibility.
- More than half of the independents studied had no change in eligibility when the IRS income, taxes paid, and household size were used to determine eligibility.
- The majority of all changes in eligibility for this group was decreases in eligibility.

Source: 1000 series AGI, TP, and HS Substitution Table No. 101

6. ELIGIBLES: COMPARISON OF SUBSTITUTING IRS ADJUSTED GROSS INCOME, TAXES, AND HOUSEHOLD SIZE INTO FORMULA FOR DETERMINING BEOG ELIGIBILITY

Effects of Substitution of IRS-Reported:

	ADJUSTED GROSS INCOME	ADJUSTED GROSS INCOME AND TAXES	ADJUSTED GROSS INCOME, TAXES, AND HOUSEHOLD SIZE
ELIGIBILITY DECREASE	11.5	12.1	24.3
NO CHANGE	86.2	85.5	73.2
ELIGIBILITY INCREASE	2.3	2.1	2.5

No Changes in Eligibility

The percent of eligibles not affected by the substitutions tended to decrease as the number of IRS variables increased. IRS taxes had very little effect in changing eligibility; household size and income had more dramatic effects in reducing the portion of eligibles not affected by the substitution of IRS data.

Changes in Eligibility

Decreases in eligibility increased as more IRS variables were used in determining eligibility. Eligibility increases remained almost invariant as the number of IRS variables was increased.

Trends

- Household size and income discrepancies had a stronger impact on decreasing eligibility than taxes.
- Most discrepancies in reported income, taxes paid, and household size resulted in eligibility decreases.

Source: 1000 series AGI; AGI and TP; AGI, TP and HS Substitution Tables No. 101

7. INELIGIBLE DEPENDENTS AND INDEPENDENTS: RESULTS OF SUBSTITUTING IRS ADJUSTED GROSS INCOME INTO FORMULA FOR DETERMINING BEOG ELIGIBILITY

	TOTAL	DEPENDENT	INDEPENDENT
DECREASED ELIGIBILITY	5.8	4.9	11.9
NO CHANGE	90.2	92.1	77.7
INCREASED ELIGIBILITY	3.9	3.0	10.4
% OF TOTAL	99.9	87.0	13.0

Population Proportions

Dependents - 84%
Independents - 16%

No Changes in Eligibility

Substituting the IRS - reported income in the formula for determining eligibility resulted in no change (within 200 points) in eligibility for nine out of every ten ineligibles studied. For dependents, this figure was slightly more than nine out of ten; for independents, it was slightly less than eight out of ten.

Changes in Eligibility

The majority of those who had changed eligibility had a decrease in eligibility. For independents, similar proportions resulted in decreased and increased eligibility.

Comparisons with All Eligibles

The eligibility of fewer ineligibles than eligibles was affected by using the IRS adjusted gross income to determine eligibility. Relatively more eligibles than ineligibles had decreased eligibility. Relatively fewer dependents had changes in eligibility than independents in both the eligible and ineligible groups studied.

Comparisons with All Ineligibles

Relatively fewer dependents and more independents in this group changed eligibility than all ineligibles.

Trends

- Nine out of every ten ineligibles studied had no change in eligibility when the IRS adjusted gross income was used to determine eligibility.
- Dependents changed eligibility less frequently than independents in both the eligible and ineligible groups studied.
- Ineligibles were affected less than eligibles by this substitution.

Source: 2000 series AGI Substitution Table No. 101

8. INELIGIBLE DEPENDENTS AND INDEPENDENTS: RESULTS OF SUBSTITUTING IRS ADJUSTED GROSS INCOME AND TAXES PAID INTO THE FORMULA FOR DETERMINING ELIGIBILITY

	TOTAL	DEPENDENT	INDEPENDENT
DECREASED ELIGIBILITY	7.5	6.0	17.3
NO CHANGE	85.6	87.8	70.7
INCREASED ELIGIBILITY	7.0	6.2	12.1
% OF TOTAL	100.1	86.9	13.0

Population Proportions

Dependents - 86%
Independents - 14%

No Changes in Eligibility

The majority of ineligibles studied had no change in eligibility when the IRS income and taxes were used to determine eligibility. Almost nine out of ten dependents and seven out of ten independents had no change.

Changes in Eligibility

The number of ineligibles who changed eligibility were found to be divided almost equally into eligibility decreases and eligibility increases.

Comparisons with All Eligibles

The eligibility of similar portions of eligibles and ineligibles was not affected by substituting the IRS income and taxes into the formula for determining eligibility; however, more ineligibles decreased eligibility due to the substitution of taxes than did eligibles. Dependents showed less change than independents in both the eligible and ineligible groups studied.

Comparisons with All Ineligibles

Substituting the IRS income and taxes effected fewer changes for dependents than for all ineligibles studied; for independents, more changes were effected.

Trends

- The eligibility of eight out of ten ineligibles, nine out of ten dependents, and seven out of ten independents was not affected when the IRS income and taxes replaced the information reported to BEOG.

- Dependents showed fewer changes in eligibility than independents when the IRS income and taxes were used in determining eligibility.

8. Trends (continued)

- Of those ineligibles being affected, almost equal numbers had increased eligibility and decreased eligibility based on the IRS income and taxes.

- The eligibility of similar portions of eligibles and ineligibles was not affected by this substitution; however, more ineligibles decreased eligibility due to the substitution of taxes than did eligibles.

Source: 2000 series AGI and TP Substitution Table No. 101

9. INELIGIBLE DEPENDENTS AND INDEPENDENTS: RESULTS OF SUBSTITUTING IRS ADJUSTED GROSS INCOME, TAXES PAID, AND HOUSEHOLD SIZE INTO THE FORMULA FOR DETERMINING ELIGIBILITY

	TOTAL	DEPENDENT	INDEPENDENT
DECREASED ELIGIBILITY	16.3	15.5	22.0
NO CHANGE	75.8	77.8	62.6
INCREASED ELIGIBILITY	7.9	6.7	15.5
% OF TOTAL	100.0	87.0	13.0

Population Proportions

The population of ineligibles in 1974-75 was comprised of 84 percent dependents and 16 percent independents.

No Changes in Eligibility

The eligibility of about three-fourths of the ineligibles was not affected by the substitution of the IRS income, taxes, and household size into the formula for determining eligibility. About three-fourths of the dependents and two-thirds of the independents were not affected by this substitution.

Changes in Eligibility

The majority of all eligibility changes were decreases. Relatively more independents than dependents had eligibility decreases.

Comparisons with All Eligibles

The eligibility of similar portions of eligibles and ineligibles was not affected by the substitution of the IRS income, taxes, and household size into the formula for determining eligibility. The rate of eligibility increases was higher for ineligibles than for eligibles. Dependents showed less change in eligibility than independents in both the eligible and ineligible groups studied.

Comparisons with all Ineligibles

Dependents showed fewer changes and independents showed more changes than all eligibles.

Trends

- The eligibility of similar percentages of eligibles and ineligibles was not affected by the substitution of IRS income, taxes, and household size into the formula for determining eligibility.
- Ineligible dependents were affected less than independents by this substitution.

Source: 2000 series AGI, TP and HS Substitution Table No. 101

10. INELIGIBLES: COMPARISON OF SUBSTITUTING IRS ADJUSTED GROSS INCOME, TAXES, AND HOUSEHOLD SIZE INTO FORMULA FOR DETERMINING BEOG ELIGIBILITY

Effects of Substitution of IRS-Reported:	ADJUSTED GROSS INCOME	ADJUSTED GROSS INCOME AND TAXES	ADJUSTED GROSS INCOME, TAXES, AND HOUSEHOLD SIZE
ELIGIBILITY DECREASED	5.8	7.5	16.3
NO CHANGE	90.2	85.6	75.8
ELIGIBILITY INCREASED	3.9	7.0	7.9

No Changes in Eligibility

The portion of ineligibles who were not affected by the substitution of the IRS data decreased as the number of variables substituted increased. Household size and income appeared to have the strongest impact in altering eligibility.

Changes in Eligibility

The substitution of income and household size resulted more frequently in eligibility decreases than increases. Changes in eligibility brought about by taxes paid tended to equalize the proportions of eligibility decreases and increases.

Comparisons with All Eligibles

Taxes paid discrepancies tended to have a more significant impact in altering the eligibility of ineligibles than eligibles. Substitution of the three variables resulted in similar portions of eligibles and ineligibles not being affected. However, of those whose eligibility was altered, eligibles tended to show decreased eligibility more frequently than ineligibles. The trend of increased effects on eligibility associated with increasing the number of IRS data items substituted for BEOG data items was consistent for both eligibles and ineligibles.

Trends

- Increasing the number of data items substituted for BEOG reported data increased eligibility changes for both eligibles and ineligibles.
- Substitution of taxes paid impacted greater on ineligibles than eligibles.
- Household size and income substitutions yielded the strongest effects on altering the eligibility on both eligibles and ineligibles.

- For both ineligibles and eligibles, income and household size discrepancies resulted in eligibility decreases more frequently than eligibility increases.

- For ineligibles, taxes paid discrepancies resulted in eligibility increases more often than eligibility decreases. For eligibles, taxes paid discrepancies effected eligibility increases and decreases at about the same level.

Source: 2000 AGI, AGI and TP, AGI, TP, and HS Substitution Tables 101

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3.3.5: Summary of Findings and Conclusions

In the discussion of the overall scope of misreporting income in Section 3.2, it was found that while overall accuracy was high, variations in the level of accuracy occurred for the major populations studied - eligibles and ineligibles, dependents and independents. Likewise, in this section, it was found that many discrete subsets of the major populations studied also evidenced variations in accuracy.

Since eligibles were of most interest to this study, the majority of the population subsets studied were subsets of the eligible population. Detailed analysis of population subsets were not performed for ineligibles. Therefore, the only important finding regarding ineligibles to be reported in this summary is that for every variable studied - income, taxes, household size - ineligibles tended to be more accurate than eligibles, and as a consequence ineligibles were impacted less than eligibles by the substitution of the IRS data into the formula for determining Basic Grant eligibility.

In terms of the eligible population, the overwhelming finding was that although some subsets were found to have accuracy rates as low as 30 percent, no single applicant characteristic could account for the majority of misreporting. This may be attributed to two factors - 1) overall, the rate of misreporting was relatively low and 2) both accurate and inaccurate reporters often shared the same characteristics. It was possible, however, to categorize several subsets of eligible applicants into groups which had the highest and lowest accuracy rates. These are presented below.

Adjusted Gross Income

Those categories of eligibles which tended to report adjusted gross income least accurately and most accurately are shown in Exhibit 3.9. According to Exhibit 3.9, the most accurate reporters were those reporting negative incomes or incomes above $12,500,

EXHIBIT 3.9
COMPARISON OF ELIGIBLE GROUPS WHICH REPORTED
ADJUSTED GROSS INCOME MOST ACCURATELY AND LEAST ACCURATELY

MOST ACCURATE			LEAST ACCURATE		
Group	Percent of Eligible Population	Percent Accurate	Group	Percent of Eligible Population	Percent Accurate
Eligibles reporting a negative income	.2%	93%	Eligibles who did not change assumed AGI	1%	30%
Eligibles reporting incomes above $12,500	6%	82%	Eligibles who submitted non-requested income changes	4%	49%
Eligibles reporting farm assets	3%	81%	Eligibles who changed assumed AGI	.5%	52%
Eligibles reporting business assets	3%	80%	Eligibles who submitted two or more corrections	6%	58%
Eligible dependents	78%	74%	Eligibles reporting veterans' educational benefits	3%	58%
Eligibles not reporting nontaxable income	64%	72%	Eligible independents	22%	58%
			Eligibles rejected for income reasons	8%	60%

NOTE: "Accurate" is defined as the absolute difference between the IRS and BEOG reported adjusted gross income being $200 or less.

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and applicants reporting farm or business assets. At least 80 percent of the eligibles in these categories reported accurately. Taken collectively, however, these groups accounted for a maximum of twelve percent of the eligible population. Eligible dependents were the largest category (78 percent of the eligible population) to have a relatively high rate of accuracy, with 74 percent of the applicants in this group reporting income accurately.

Eligibles who did not change assumed[1/] adjusted gross income values and eligibles who submitted non-requested corrections to income had accuracy rates below 50 percent. Both of these groups accounted for approximately five percent of the eligible population. Other groups with low accuracy rates included those who did change assumed income values, eligibles reporting Veterans' education benefits, and those who had submitted two or more corrections. The largest group that had a low accuracy rate was eligible independents. Eligible independents, who accounted for 22 percent of the 1974-75 eligibles, were found to have an accuracy rate of only 58 percent.

In summary then, it appears that although some categories of applicants tend to report less accurately than others, that no single variable can predict misreporting income with a high degree of certainty. Because both accurate and inaccurate reporters frequently share the same characteristics, it is not possible to use existing information to isolate <u>all</u> income misreporters. Therefore, it may be anticipated that selection of applications from categories of applicants with low accuracy rates will result in identifying several that are accurate, as well as many that are inaccurate.

[1/] When an applicant fails to provide information that can be logically assumed from other information, an assumed value is used in determining eligibility. For example, when no adjusted gross income is reported, it is assumed to be the sum reported for the parent and spouse, or the applicant and spouse.

Taxes Paid

The findings associated with the accuracy of taxes paid reported by categories of applicants to Basic Grants were similar to those of the findings for adjusted gross income. However, because the overall accuracy of taxes was even higher than income, it was more difficult to locate large concentrations of misreporters of taxes. Exhibit 3.10 presents a comparison of the groups found to report taxes most accurately and least accurately.

The most accurate reporters of taxes were eligibles reporting adjusted gross incomes below $4,000. This is a particularly noteworthy finding because of all applicants in the study group at every income level, these were the least accurate reporters of adjusted gross income. This implies that when income is underreported, taxes are not also adjusted downward. Accordingly, an inconsistency between the reported income and the expected tax for the income and exemptions reported may predict inaccuracies in reported income.

Another interesting finding is that independents, who were among the least accurate reporters of income, were the most accurate reporters of taxes. Accordingly, independents who misreport income may also be located by considering the appropriateness of the amount of reported taxes paid in relation to the income and exemptions reported.

The least accurate reporters of taxes were those who had filed a declaration of estimated income to IRS. Other relatively likely misreporters of taxes were eligible independents reporting taxes above $500 and eligible dependents reporting taxes above $1,000. Taken collectively, these groups account for about 10 percent of the population, but at least half of the eligibles in each of these groups had reported taxes accurately.

In conclusion, these findings revealed that misreported taxes do not tend to be strongly associated with any applicant characteristics studies. The individual validation efforts found that many applicants who misreport taxes do so by reporting taxes withheld

EXHIBIT 3.10
COMPARISON OF ELIGIBLE GROUPS WHICH REPORTED
TAXES PAID MOST ACCURATELY AND LEAST ACCURATELY

MOST ACCURATE			LEAST ACCURATE		
Group	Percent of Eligible Population	Percent Accurate	Group	Percent of Eligible Population	Percent Accurate
Eligibles reporting AGI below $4,000	46%	86%	Eligibles filing IRS declaration of estimated income	unknown	49%
Eligible independents	22%	82%	Eligible independents reporting taxes above $500	1%	51%
			Eligible dependents reporting taxes above $1,000	9%	63%
			Eligibles rejected for taxes paid reasons	6%	66%
			Eligibles who submitted non-requested corrections to taxes	2%	65%

NOTE: "Accurate" is defined as the absolute difference between the IRS and BEOG reported taxes paid being $200 or less.

instead of taxes paid. This type of misreporting is fairly common and was not found to be associated with any specific categories of applicants. Accordingly, inaccurate reporting of taxes may be distributed fairly randomly throughout the eligible population, and for this reason no applicant categories were found to relate strongly to misreported taxes.

Household Size

Of the three variables compared between the BEOG application and the Federal tax return, household size was found to be reported most accurately. More than 87 percent of all eligibles were found to report household size accurately. Exhibit 3.11 presents the comparision of least accurate and most accurate reporters of household size. According to this exhibit, the most accurate reporters of household size were eligibles reporting household sizes of one or two. Eligibles who did not change assumed household sizes were also highly accurate. This is a significant contrast to applicants who received assumed incomes, since income assumptions were found to be frequently erroneous. The largest concentration of accurate reporting was found for eligibles who had reported the same household size as exemptions. Independents also tended to report household size accurately. However, most independents report a household size of one or two, which was also found to be indicative of accuracy.

The least accurate reporters of household size were those who had altered an assumed household size value. The largest concentration of inaccurate reporting was found for eligibles who had reported the size of household at the time of submitting the application to be larger than the number of exemptions claimed in the previous year. Other categories of applicants with low accuracy rates were eligibles who had reported household size above eight, and dependents reporting incomes below $4,000.

In conclusion, it was found that some categories of applicants tended to report quite accurately, while others had a lower rate of accuracy. The largest groups of accurate reporters of household

EXHIBIT 3.11

COMPARISON OF ELIGIBLE GROUPS WHICH REPORTED HOUSEHOLD SIZE LEAST ACCURATELY AND MOST ACCURATELY

MOST ACCURATE			LEAST ACCURATE		
Group	Percent in Eligible Population	Percent Accurate	Group	Percent in Eligible Population	Percent Accurate
Eligibles, household size 1-2	17%	99%	Eligibles who changed assumed household size	.8%	56%
Eligibles who did not change assumed household size	3%	97%	Eligibles, household size greater than exemptions	38%	65%
Eligibles, household size equal to exemptions	53%	95%	Eligibles, household size greater than 8	8%	69%
Dependents, income $10,000 to $15,000	15%	91%	Dependents, income below $4,000	29%	76%

NOTE: "Accurate" is defined as the absolute difference between the IRS and BEOG reported household size to be one or zero.

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size were those who reported a household size of one or two, and those who reported exemptions equal to household size. The largest groups of less accurate reporters of household size were those who reported household size to be larger than exemptions, and dependents who reported incomes below $4,000.

Eligibility Index

There were two major findings associated with the impact of substituting IRS-reported data for BEOG reported data in the formula for determining eligibility. First, the impact on eligibility is consistently smaller than the dollar value of the absolute size of the discrepancy, for all types of discrepancies. For example, while only 74 percent of the eligible dependents had reported income accurately (within $200) more than 88 percent had no significant change in eligibility (within 200 points). The second major finding was that the more IRS variables substituted, the greater the number of applicants with significant eligibility index changes. Of the three variables substituted, taxes paid discrepancies effected the least impact, and household size and income discrepancies wielded the most influence.

One very interesting finding was that while eligible dependents reporting incomes below $4,000 had more income discrepancies than all other eligible dependents studied, these discrepancies did not impact as significantly as did the discrepancies for higher income dependents. This may be attributable to the nature of the formula for determining Basic Grant eligibility. The formula was designed so that negative amounts (resulting from larger allowable offsets than income) are treated as a zero in certain steps of the formula. Therefore, applicants with eligibility indices of zero may in fact have a negative index in absolute terms. In such cases a zero index may still remain, even when the income is increased by several hundred dollars. On the other hand, applicants with high indices may receive point losses for relatively small amounts of additional income reported.

This finding is particularly relevant to the types of applicants who tended to misreport. It was consistently found that low income eligibles, and other categories of applicants comprised largely of low income applicants -- e.g., independents and eligibles reporting nontaxable income, tended to show the highest occurrence of misreported adjusted gross income. However, it appears that the eligibility of these same groups are least affected by increasing (and correcting) the amount of adjusted gross income reported. Since many low income applicants do receive zero eligibility indices, and for this reason income discrepancies impact less than on higher income groups, it would not be very cost-effective to concentrate validation efforts on low income eligibles. Rather, validation efforts should focus more on the higher income applicants whose eligibility is more likely to be affected by misreporting.

Overall Summary and Conclusions

The following brief presentations are provided to capsulize the major findings and conclusions of the IRS Comparison Study:

- The accuracy of information reported to the Basic Grant program tended to be high for all variables studied. Misreporting resulted in decreases in eligibility, as well as increases. Therefore, it was concluded that while a small portion of the misreporting may be intentionally fraudulent, much of the apparent misreporting uncovered in this study could be attributed to:
  - Misunderstanding the instructions and carelessness
  - Rounding
  - Lack of exact definitional comparability and differences in reporting requirements between IRS and BEOG

  Consequently, misreporting should be combatted through improvements to the application procedures, as well as through continuing validation efforts.

- It was consistently found that ineligibles reported more accurately than eligibles. However, ineligibles are comprised largely of higher income applicants who are more sophisticated in completing financial forms.

while eligibles are comprised largely of lower income applicants who are less sophisticated in completing financial forms.

- Although it was found that low income eligibles reported income less accurately than all other applicants, misreporting had a smaller impact on eligibility for this group than for all other groups studied. Consequently, validation efforts should concentrate more on higher income applicants whose eligibility is affected more by misreporting.

- Several categories of eligibles were studied to determine whether any specific subsets of the eligible population accounted for the most misreporting. Although different categories of applicants were found to have a high incidence of misreporting on the three variables studied (income, taxes, household size), applicants who submitted corrections had consistently low accuracy rates on all variables studied.

  Therefore, it may be concluded that some applicants are abusing the application correction system and are using it as a means to increase their eligibility.

- The Basic Grant eligibility index was found to be impacted most by discrepancies in income and household size, and least by discrepancies in reported taxes paid. Consequently, validation efforts should focus on these items and on the applicant groups which tend to misreport these items.

APPENDIX A

DETAILED METHODOLOGY

APPENDIX A

DETAILED METHODOLOGY

The purpose of this chapter is to document the design of the IRS Comparison Study. This presentation follows a chronological sequence beginning with the specification and refinement of the study objectives and leading to the development of the analytic output. The topics covered, in sequential order are, specification of dependent variables; specification of independent variables and refinement of study objectives; sample specification; and data linkage.

A.1 Specification of Dependent Variables

The conceptualization of the IRS Comparison Study design was determined by the general study objectives specified in the request for proposals under which this study was carried out. The following two general objectives defined the direction of the study:

1. To determine the extent to which information on the Basic Grant form is similar, or at variance with, IRS income tax returns for various categories of applicants; and
2. To specify which categories of applicants tend to misreport on their Basic Grant applications so that they can be monitored in future application years.

From this starting point the Validation Contractor and the OE Basic Grant staff worked together closely to specify more discrete subobjectives which would enable the study design to address these two general objectives in sufficient detail. Concurrently, the Office of Education maintained liaison with the IRS Statistics Division in order to assure that IRS was kept up-to-date on the

developmental processes. The first step in the refinement of the study objectives was the specification of the dependent variables. Through a series of meetings, the study objectives were further refined into four sets of study questions associated with the dependent variables. The first three of these were determined by the comparability of data items contained on the Basic Grant application and on IRS forms 1040 and 1040A. A review of the 1974-75 Basic Grant applications and the 1973 and 1974 IRS forms 1040 and 1040A revealed that two data items were definitionally constant on both agency's forms:

1. Adjusted gross income (AGI) and
2. Exemptions

The 1974-75 BEOG application requests that AGI be copied from line 15 of form 1040 or line 12 of 1040A. Exemptions are taken from line 7, form 1040 or line 7 of form 1040A. Both exemptions and AGI are taken from the tax return filed in the year prior to the BEOG application. In this study the 1974-75 BEOG records were examined. Accordingly, the 1973 IRS record was used for comparison. Two other data items were found to be similar, but not exactly comparable:

3. Taxes paid and
4. Household size

The "Taxes paid" variable contained in the 1974-75 Basic Grant application requests that the amount reported be equal to the amount entered in line 14 of the 1973 Federal Income Tax Form 1040 of line 19 of Form 1040A. This amount is defined as the amount of Federal income tax paid. The Internal Revenue Services' Master File, however, contains the variable "total acceptable tax." This amount includes the total tax paid. For some filers it also includes self-employment tax and tax credits, as well as Federal income tax. Because the majority of taxpayers pay Federal income tax only, it was determined that comparisons would still be made on this variable. However, it must be noted throughout this report that these variables are not exactly equal and that some proportion

of the discrepancies found are attributable to this definitional inconsistency. This proportion is estimated by the author to be less than five percent. A more precise approximation cannot be made since the BEOG population is not equivalent to the IRS population; consequently, it cannot be inferred that the proportion of IRS returns containing taxes other than Federal income tax is duplicated in the BEOG population.

The other variable considered for comparison was "household size." The BEOG application requests that the applicant enter the number of household members for whom the applicant or the applicant's parent(s) provide more than half of the support at the time of submitting the application. The IRS exemption item, however, requests the number of persons for whom the filer provided more than half the support during the filing year, along with several other criteria, including relationship, citizenship, and amount of income. In addition, a taxpayer and/or the spouse is permitted to claim one additional exemption for blindness or for age over sixty five. Consequently, the BEOG item "household size" is not equal to the IRS exemption item. For the purposes of this study the IRS exemption fields of the tax return filed for the year of the BEOG application were used, and only one exemption was counted for the primary and secondary taxpayer although additional exemptions may have been claimed for blindness or for age. Since the 1974-75 BEOG application records were being studied, the 1974 exemption fields were used for comparison with household size. The comparison of BEOG reported household size with the "household size" derived from the IRS exemption fields yields some discrepancy due to definitional inconsistency. In this study it was considered that a difference of one between the BEOG household size variable and that derived from the IRS exemption fields would account for births or deaths occurring between the dates of filing the tax return and dates of submitting the BEOG application. It is also understood that the BEOG household size definition carries fewer limitations than the IRS definitions. Specifically, the BEOG household size definition includes no criteria for citizenship, relationship, or amount of income.

Consequently, some proportion of the discrepancies greater than one may be attributable to these factors. However, no other research was found that might indicate an accurate estimate of this unknown proportion.

Exhibit A.1 contains a summary of the BEOG and IRS data items that were compared in this study, and summarizes the degree of definitional comparability between BEOG and IRS. These variables comprise the first three dependent variables examined in this study. The comparison of AGI, taxes paid and household size are of most importance in this study since these variables are included in the computational formula for determining eligibility for a Basic Grant award. Although requested on the application form, number of exemptions is not entered into the formula unless the applicant fails to make an entry in the "household size field." The applicant is notified of this substitution, and is advised to correct it if it is erroneous. For this reason, exemptions were not examined in as great detail as were AGI, taxes paid and household size.

The fourth dependent variable examined in this study is the eligibility index derived from the IRS data. It was necessary to examine the eligibility index calculated by substituting the IRS-reported adjusted gross income, taxes paid, and household size data into the formula for determining Basic Grant eligibility (in addition to examining these variables separately), because changes in AGI, taxes paid, and household size do not correspond directly with the size of the change in the eligibility index. This is due to the complexity of the formula, which takes into account not only these (and other application) variables, but includes offsets that are determined by the amounts reported, as well as the presence or absence of amounts reported for other variables. For example, two persons reporting exactly the same financial information (including the adjusted gross income) on the Basic Grant form will not receive the same eligibility index if on one application both parents are reported to be employed and on the other one parent is the sole source of AGI. This is because the formula includes an employment

EXHIBIT A.1

DEGREE OF COMPARABILITY BETWEEN
BEOG AND IRS DATA ITEMS STUDIED

BEOG Data Items	Comparable IRS Data Items	Degree of Comparability
1. Adjusted Gross Income - amount reported on line 12 of 1973 IRS Form 1040A or line 15 of IRS Form 1040.	1. Adjusted Gross Income - amount as reported on line 12 of 1973 Form 1040A or line 15 of Form 1040.	1. EXACT
2. Taxes Paid - total amount of Federal income tax paid on line 14 of 1973 IRS Form 1040 or line 19 of Form 1040A.	2. Total Acceptable Tax - amount reported on line 22 of 1973 IRS Form 1040 or line 21 of Form 1040A. This includes Federal Income tax paid from line 14 of IRS Form 1040, as well as tax credits and other taxes from lines .	2. Partial because IRS item contains other taxes and tax credits.
3. Household size - number of members of household for whom independent applicants or dependent applicant's parents provide more than half of the support.	3. "Household size" derived from 1974 Exemption fields, counting total exemptions reported on line 7 of 1974 IRS Form 1040 or 1040A, and subtracting exemptions claimed for blindness and for age.	3. Partial because (A) IRS definition of exemptions is more restrictive than BEOG defintion of household size and (B) temporal difference since BEOG household size reflects application date and IRS exemptions reflect status on December 31, 1973, but permit exemptions to be claimed for persons who would be eligibile, but died during 1973.
4. Exemptions - number reported on line 7 of 1973 IRS Form 1040 or 1040A.	4. Exemptions - number reported on line 7 of 1973 IRS Form 1040 or 1040A or sum of exemption fields.	4. EXACT.

A.5

offset if both the dependent's parents are employed, or if both the independent applicant and spouse are employed. Consequently, changes in the financial variables entered into the formula do not always result in a proportional change in eligibility. Since the eligibility index determines the amount of the award, it was deemed necessary to examine the eligibility index derived from the substitution of the IRS data in order to obtain an assessment of the scope and impact of misreporting. Only through the examination of the differences between the original BEOG eligibility index and the eligibility index derived from the IRS data could an estimate be made of the amount of overpayments and underpayments that may have been granted to applicants because financial information had been misreported.

A.2 Refinement of Study Objectives and Specification of Independent Variables

The refinement of the study objectives in relation to AGI, taxes paid, household size/exemptions, and eligibility index occurred through a series of meetings between the validation contractor and the Office of Education Basic Grant staff. The first set of sub-objectives specified for each of the four dependent variables included the following:

- How many and what percent of the Basic Grant applications agree with the IRS-reported adjusted gross income, taxes paid, household size/exemptions, eligibility index?
- How many and what percent of the Basic Grant applications do not agree with the IRS-reported adjusted gross income, taxes paid, household size/exemptions, eligibility index?
- How many and what percent of the Basic Grant-reported adjusted gross income, taxes paid, household size-exemptions, eligibility index are higher than the IRS-reported amount?
- How many and what percent of the Basic Grant-reported adjusted gross income, taxes paid, household size/exemptions, eligibility index are lower than the IRS-reported amount?
- What is the average size of positive discrepancies between the IRS and BEOG adjusted gross income, taxes paid, household size/exemptions, eligibility index?

- What is the average size of negative discrepancies between the IRS and BEOG adjusted gross income, taxes paid, household size/exemptions, eligibility index?

This set of sub-objectives relates to identifying the overall extent and scope of misreporting. However, another major goal of this study was to determine whether specific categories of applicants are associated with high rates or low rates of misreporting. Information obtained in response to this objective would be used to determine which categories of applicants should be selected for validation in future years.

The specification of applicant categories resulted in the determination of the independent variables and the specification of another set of sub-objectives for each dependent variable. This was accomplished through a series of meetings between the Validation Contractor and the OE Basic Grant staff. Sub-objectives and independent variables were preliminarily specified from the universe of variables contained in the BEOG and IRS master files. They were finalized through a judgmental selection process which considered the strength of proposed hypotheses relating each potential independent variable with its associated dependent variable. For example, income level was selected as an independent variable because similar studies have revealed income level to be related to misreporting. Sex was not included as an independent variable because no convincing hypothesis could be developed which related sex to misreporting. The following list represents the finalized group of subobjectives and independent variables that were entered into the analysis. It should be noted, however, that because of the exploratory nature of this study not all of these variables were specified prior to the beginning of the actual analysis;[1/] rather, some emerged as a result of reviewing the initial

[1/] The Validation Contractor and the Office of Education prepared and submitted a Sampling and Analysis Plan to the Internal Revenue Service Statistics Division for review and approval prior to the data linkages. Since that submission some of the variables were deleted and others were added to better respond to the study objectives. These alterations in no way affected the agreement with IRS and no analytic output derived from the additional variables jeopardized the terms of data security and confidentiality.

analytic output. For the sake of simplifying the presentation, they are presented together below.

- Do the following categories of applicants reflect higher or lower discrepancy rates in adjusted gross income? 1/
  - .. Eligibles
  - .. Ineligibles
  - .. Dependent (upon parental support)
  - .. Independent (of parental support)
  - .. Dependents reporting the following ranges of adjusted gross income on the BEOG application:
    - Less than 4,000
    - $4,000 - $6,999
    - $7,000 - $9,999
    - $10,000 - $12,499
    - $12,500 - $14,999
    - $15,000 - $17,499
    - $17,500 +
  - .. Independents reporting the following ranges of adjusted gross income on the BEOG application:
    - Less than 4,000
    - $4,000 - $6,999
    - $7,000 - $9,999
    - $10,000 - $12,499
    - $12,500 +
  - .. Applicants reporting farm assets
  - .. Applicants reporting business assets
  - .. Applicants reporting veteran's benefits
  - .. Applicants reporting Social Security benefits
  - .. Applicants/parents reporting divorced/separated/ widowed to BEOG and filing a joint IRS return

1/ Unless otherwise stated, all applicant categories or independent variables refer to information reported on the 1974-75 BEOG application.

.. Applicants/parents reporting divorced/separated/ widowed to BEOG and filing a separate IRS return

.. Applicants reporting other (nontaxable) income

.. Applicants reporting negative adjusted gross income

.. Applicants reporting a negative adjusted gross income and farm assets

.. Applicants reporting a negative adjusted gross income and business assets

.. Applicants signing a BEOG application prior to April 15th

.. Applicants signing a BEOG application after April 15th

.. Applicants signing the BEOG application prior to signing the IRS form

.. Applicants signing the IRS form prior to signing the BEOG form

.. Dependents reporting total income (AGI plus other income) in the following ranges:

- Less than $4,000
- $4,000 - $6,999
- $7,000 - $9,999
- $10,000 - $12,499
- $12,500 - $14,999
- $15,000 - $17,499
- $17,500 +

.. Independents reporting total income (AGI plus other income) in the following ranges:

- Less than $4,000
- $4,000 - $6,999
- $7,000 - $9,999
- $10,000 - $12,499
- $12,500 +

.. Applicants rejected for income reasons

.. Applicants who received an assumed AGI, but did not change it

.. Applicants who received an assumed AGI, but did change it

.. Applicants who had changed adjusted gross income from correct to incorrect

.. Number of trailer [1/] records on the BEOG file:

- One (indicating that no corrections were submitted to the original application)
- Two (indicating at least one correction)
- Three (indicating at least two corrections)
- More than three (indicating at least three corrections have been submitted)

.. Applicants who changed adjusted gross income, but were not requested to make a change

- Do the following categories of applicants reflect higher or lower discrepancy rates in taxes paid?

.. Eligible applicants

.. Ineligible applicants

.. Dependents

.. Independents

.. Applicants reporting taxes paid in the following ranges:

- Less than $300
- #301 - $500
- $501 - $750
- $751 - $1,000
- $1,000 - $3,000
- $3,000 +

.. Dependent applicants reporting adjusted gross income in the following ranges:

- Less than $4,000
- $4,000 - $6,999
- $7,000 - $9,999
- $10,000 - $12,499
- $12,500 - $14,999
- $15,000 - $17,499
- $17,500 +

[1/] The BEOG master file is composed of variable length records. Each individual record consists of a demographic section and one or more "trailers." One trailer indicates that no corrections have been made to the original application. More than one trailer indicates that corrections have been submitted.

.. Independent applicants reporting adjusted gross income in the following ranges:
   - Less than $4,000
   - $4,000 - $6,999
   - $7,000 - $9,999
   - $10,000 - $12,499
   - $12,500 +
.. Applicants who signed the BEOG application prior to April 15th
.. Applicants who signed the BEOG application after April 15th
.. Applicants who signed the BEOG application prior to signing the IRS form
.. Applicants who signed the IRS form prior to signing the BEOG form
.. Applicants/parents who reported divorced/separated/widowed/single to BEOG and filed a joint IRS return
.. Applicants/parents who reported divorced/separated/widowed/single to BEOG and filed a separate IRS return
.. Applicants/parents who filed an IRS declaration of estimated income
.. Applicants who had been rejected for taxes paid reasons
.. Applicants who had changed taxes paid from correct to incorrect
.. Applicants who changed taxes paid, but were not requested to make a change

- Do the following categories of applicants reflect higher or lower discrepancy rates in household size/exemptions?
  .. Eligibles
  .. Ineligibles
  .. Dependents
  .. Independents
  .. Dependents reporting adjusted gross income in the following ranges:
     - Less than $4,000
     - $4,000 - $6,999
     - $7,000 - $9,999
     - $10,000 - $12,499

- $12,500 - $14,999
- $15,000 - $17,499
- $17,500 +

.. Independents reporting adjusted gross income in the following ranges:
- Less than $4,000
- $4,00 - $6,999
- $7,000 - $9,999
- $10,000 - $12,499
- $12,500 +

.. Applicants reporting household size in the following ranges:
- 1 to 2
- 3 to 4
- 5 to 6
- 6 +

.. Applicants who received an assumed household size value, but did not change it

.. Applicants who received an assumed household size value, and did change it

.. Applicants/parents reporting divorced/widowed/separated/single and filing a joint IRS return

.. Applicants/parents reporting divorced/widowed/separated/single and filing a separate IRS return

.. Applicants who had changed household size from correct to incorrect

.. Applicants who reported household size equal to exemptions

.. Applicants who reported household size to be greater than the number of exemptions

.. Applicants reporting exemptions in the following ranges:
- 1 to 2
- 3 to 4
- 5 to 6
- 6 +

- Do the following categories of applicants reflect higher or lower discrepancy rates in eligibility index calculated by substituting IRS-reported adjusted gross income, taxes paid, and household size into the formula?
  - .. Dependents
  - .. Independents
  - .. Dependents reporting adjusted gross income in the following ranges:
    - Less than $4,000
    - $4,000 - $6,999
    - $7,000 - $9,999
    - $10,000 - $12,499
    - $12,500 - $14,999
    - $15,000 - $17,499
    - $17,500 +
  - .. Independents reporting adjusted gross income in the following ranges:
    - Less than $4,000
    - $4,000 - $6,999
    - $7,000 - $9,999
    - $10,000 - $12,499
    - $12,500 +
  - .. Eligible applicants with BEOG-reported eligibility indices in the following ranges:
    - 0 to 200
    - 201 to 400
    - 401 to 600
    - 601 to 800
    - 801 to 1,000
    - 1,000 to 1,200
  - .. Ineligible applicants with BEOG-reported eligibility indices in the following ranges:
    - 1,201 to 1,400
    - 1,401 to 1,600
    - 1,601 to 1,800
    - 1,801 to 2,000
    - 2,000 or more

Once the dependent and independent variables had been specified, the methods of analysis could be determined. It was decided that descriptive statistics would be the most useful and appropriate analytic method for meeting the needs of the Office of Education. These included counts, percentages, and frequency distributions presented in computer-generated cross tabular displays.

A.3 Sample Specification

The design and selection of the sample of BEOG applicants for this study was approached with the understanding of its critical effect upon the type of analysis to be performed and the precision of estimates derived from the sample. Because an agreement with the Internal Revenue Service had not been solidified prior to the award of the contract, the Office of Education requested that the Validation Contractor develop at least two alternative approaches to sampling for presentation to IRS. This development hinged upon the issue of confidentiality. The approaches to sampling had to address two alternative methods for conducting the analysis - one, the direct comparison of individual records on a one-to-one basis; and two, the comparison of groups of individuals falling into specific categories. The approaches to sampling that were developed by Applied Management Sciences for consideration by OE and IRS were:

1. Stratified random and completely random samples of individual records to be compared individually with IRS records, and
2. Stratified random sample of individual records to be grouped prior to analysis

A full discussion of the advantages and disadvantages of these alternatives was presented in the "Sampling and Analysis Plan for the IRS Study" delivered to OE on July 16, 1975. The Office of Education and the Internal Revenue Service agreed with Applied Management Sciences' recommendation that a stratified random sample of individual records to be used in individual comparisons would be most responsive to the objectives of the study. Therefore, the following discussion focuses on this approach to sampling.

A.3.1: The Universe

The population of primary interest in this study was comprised of applicants who had submitted a regular 1974-75 Basic Grant application (as opposed to a supplemental)[1/] and had received an eligibility index of 1200 or less, indicating that they were eligible to receive a Basic Grant award. It should be noted, however, that all applicants with eligible ratings do not necessarily receive awards because they may not enroll in an eligible institution. The 1974-75 Basic Grant data base maintained by the Processing Contractor contained records for 667,179 applicants who had received eligibility indices of 1200 or less.

The second population of interest to this study consisted of 1974-75 applicants who had filed a regular application, but received an eligibility index greater than 1200, indicating that they were ineligible to receive a Basic Grant award. The Basic Grant data base included 422,809 such records. In addition, the data base also contained several thousand applicants who had not received eligibility indices due to failure of the applicant to meet citizenship or prior post-high requirements, or failure to complete the application. These records were not examined since many would result in an incomplete linkage with IRS due to missing data.

1/ Applicants who suffer from specific circumstances which severely affect their financial status are allowed to file a supplemental application and report an estimate of the current year's income instead of the prior year's actual income. Samples of these applicants' records were also compared with IRS data to determine the degree to which estimates are accurate. This study is discussed in Volume 2, Estimated Income Studies.

A.3.2: Sample Stratification

Within the two populations of interest (eligibles and ineligibles), applicants were grouped according to two stratification variables hypothesized to be associated with discrepancies. The stratification variables selected were (1) financial dependency status, and (2) income level. Financial dependency status was selected as a stratification variable because its levels represent two very different categories of applicants - those who are dependent upon parental financial support and those who are independent of parental financial support. Dependent applicants report financial information related to the parents; independents report their own financial information. The second stratification variable, income level (adjusted gross income), was selected because it also distinguishes significantly among applicants. It is also a critical variable in determining the eligibility index. The following levels of the income variable were used:

1. For applicants dependent upon parental support, adjusted gross income reported on the Basic Grant application to be:

   - Less than $4,000
   - $4,000 - $6,999
   - $7,000 - $9,999
   - $10,000 - $12,499
   - $12,500 - $14,999
   - $15,000 - $17,499
   - $17,500 and over

2. For applicants independent of parental support, adjusted gross income reported on the Basic Grant application to be:

   - Less than $4,000
   - $4,000 - $6,999
   - $7,000 - $9,999
   - $10,000 - $12,499
   - $12,500 and over

The levels of income within financial dependency status yielded a twelve-cell stratified random sampling design. The same 12-celled design was used for both the eligible and ineligible populations.

A.3.3: Sample Sizes

The Office of Education specified that the total sample size contain approximately 100,000 1974-75 Basic Grant applicant records and that at least 80 percent of these be eligibles. An adjustment was made to this sample size to account for records of dependent applicants which did not contain the parent social security number,[1/] which was the primary means of linkage with IRS data for dependent applicant records. The BEOG Processing Contractor estimated that between 20 and 30 percent of the dependents' parents' social security numbers were not reported in the 1974-75 processing year. Accordingly, the total sample size was increased to approximately 130,000 to account for missing social security numbers.

From the total sample size of 130,000 records, sample sizes were specified for the twelve cells representing the levels of the two stratification variables. For both the eligible and ineligible populations, sample sizes were determined such that the sampling error was not greater than five percent at the 95 percent confidence interval. This was accomplished for cells containing large populations by applying the following formulation of the standard error for the binomial distribution:

$$r = 2\sqrt{\frac{pq}{n}}$$

where p = the proportion of error
q = 1-p
r = the absolute error
n = the sample size

[1/] The 1974 Basic Grant procedures required that dependent applicants include the applicant's social security number and the signature of the applicant and the parent in order for the application to be processed. The parent social security number is requested, but not required as a prerequisite to application processing. In addition, only the applicant social security number is transcribed from the application to the automated data base; the parent social security number remains in the hard copy record.

For those cells containing 400 or less population members, the following formulation was used in order that the sample size be large enough to assure that the error would be no greater than .05 at the 95 percent confidence interval:

$$r = \sqrt{\frac{N - n}{nN}}$$

where r = the absolute error
N = the population size
n = the sample size

It should be noted that because the Office of Education specified that more than 80,000 eligibles be included, sampling error for this group was almost negligible.

Because the Basic Grant program statistics did not include the number of eligibles and ineligibles segregated into the twelve cells used in the sampling design, it was necessary for the BEOG processor to provide such counts before the sample sizes were specified. Exhibit A.2 displays the population count for each cell, the approximate sample size that had been specified in order to minimize error.

A.3.4: Sample Selection

Sample selection was accomplished by the Basic Grant Processing Contractor, the American College Testing Program at the data base site in Iowa City, Iowa. Exhibit A.3 displays the system flow, beginning with the preparation of the files and resulting in the development of a file for identifying the IRS records to be linked, and a file containing the BEOG data to be merged with the IRS data, after identifiers had been removed. ACT's activities entailed the selection of complete application records from the data base and preparation of a work file containing the independent variables to be studied. Four digit strata codes were attached to each record, and the file was sorted by income level. The samples were then selected for each stratum, utilizing a random start and a skip pattern equal

EXHIBIT A.2

POPULATION AND SAMPLE SIZES

Eligibles

Strata Code	Classification	Universe	Sample
1110	Eligible, $0-3,999 Dependent	187,085	31,181
1120	Eligible, $0-3,999 Independent	116,901	19,484
1210	Eligible, $4,000-6,999, Dependent	108,922	18,154
1220	Eligible, $4,000-6,999, Independent	22,105	3,684
1310	Eligible, $7,000-9,999, Dependent	110,954	18,493
1320	Eligible, $7,000-9,999, Independent	6,139	1,023
1410	Eligible, $10,000-12,499, Dependent	69,993	11,666
1420	Eligible, $10,000-12,499, Independent	503	503
1510	Eligible, $12,500-14,999, Dependent	32,542	5,424
1520	Eligible, $12,500 and over, Independent	67	67
1610	Eligible, $15,000-17,499, Dependent	9,412	1,569
1710	Eligible, $17,500 and over, Dependent	2,556	639
	Total	667,179	111,887

Ineligibles

Strata Code	Classification	Universe	Sample
2110	Non-Eligible, $0-3,999, Dependent	19,699	730
2120	Non-Eligible, $0-3,999, Independent	19,195	711
2210	Non-Eligible, $4,000-6,999, Dependent	19,179	711
2220	Non-Eligible, $4,000-6,999, Independent	18,468	684
2310	Non-Eligible, $7,000-9,999, Dependent	30,076	1,003
2320	Non-Eligible, $7,000-9,999, Independent	13,178	549
2410	Non-Eligible, $10,000-12,499, Dependent	47,133	1,572
2420	Non-Eligible, $10,000-12,499, Independent	7,748	517
2510	Non-Eligible, $12,500-14,999, Dependent	70,344	2,345
2520	Non-Eligible, $12,500 and over, Independent	7,794	520
2610	Non-Eligible, $15,000-17,499, Dependent	65,206	2,174
2710	Non-Eligible, $17,500 and over, Dependent	104,789	3,493
	Total	422,809	15,009

EXHIBIT A.3

SAMPLE SELECTION SYSTEMS FLOW

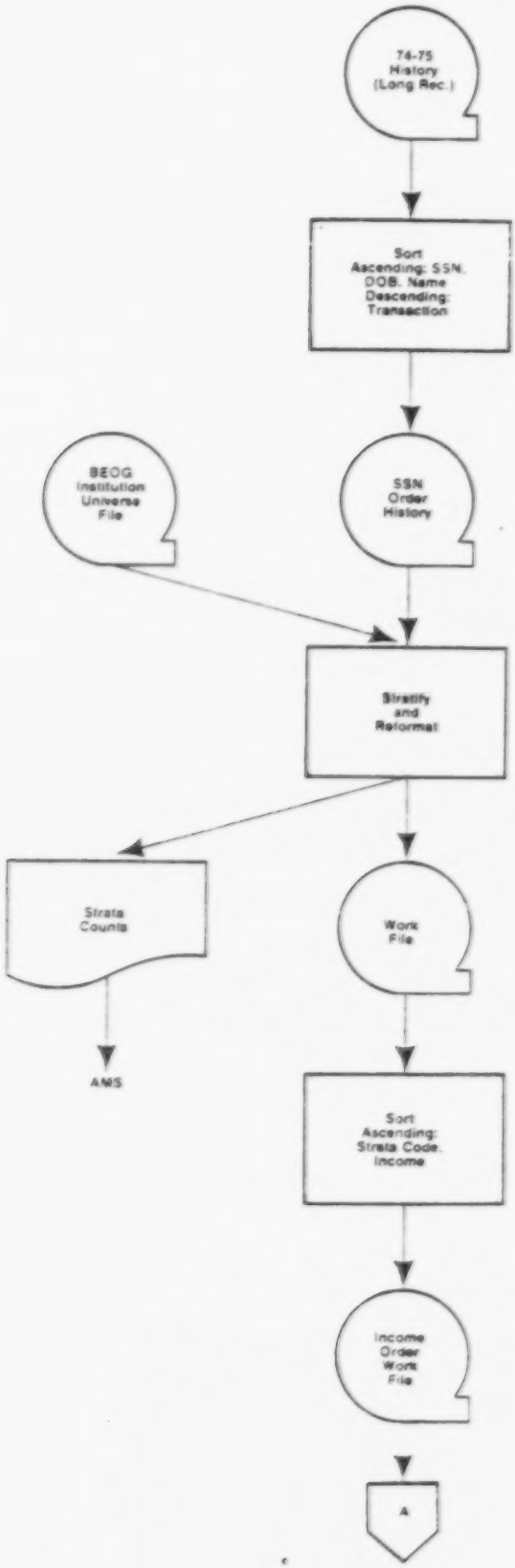


EXHIBIT A.3 (continued)

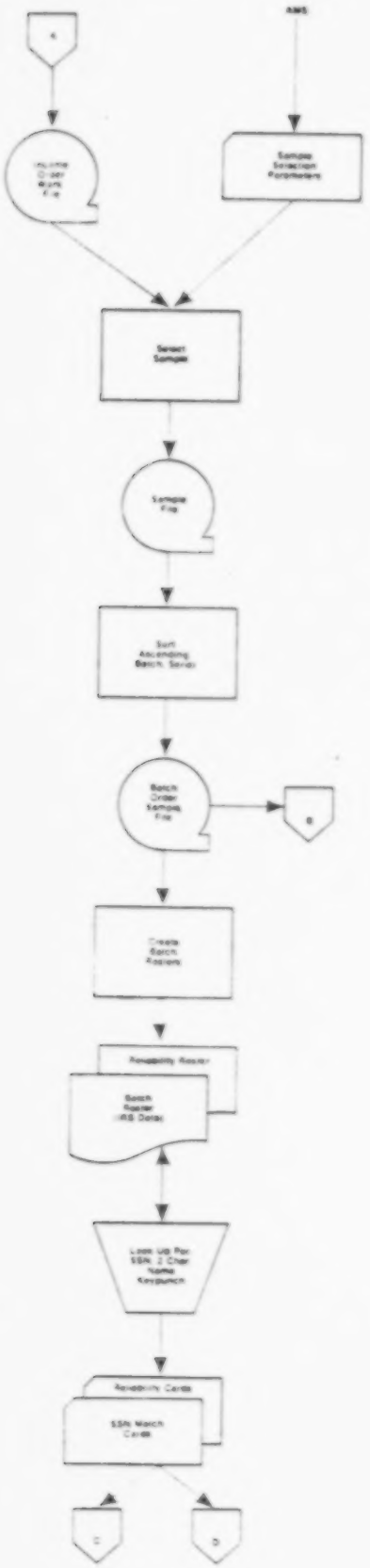
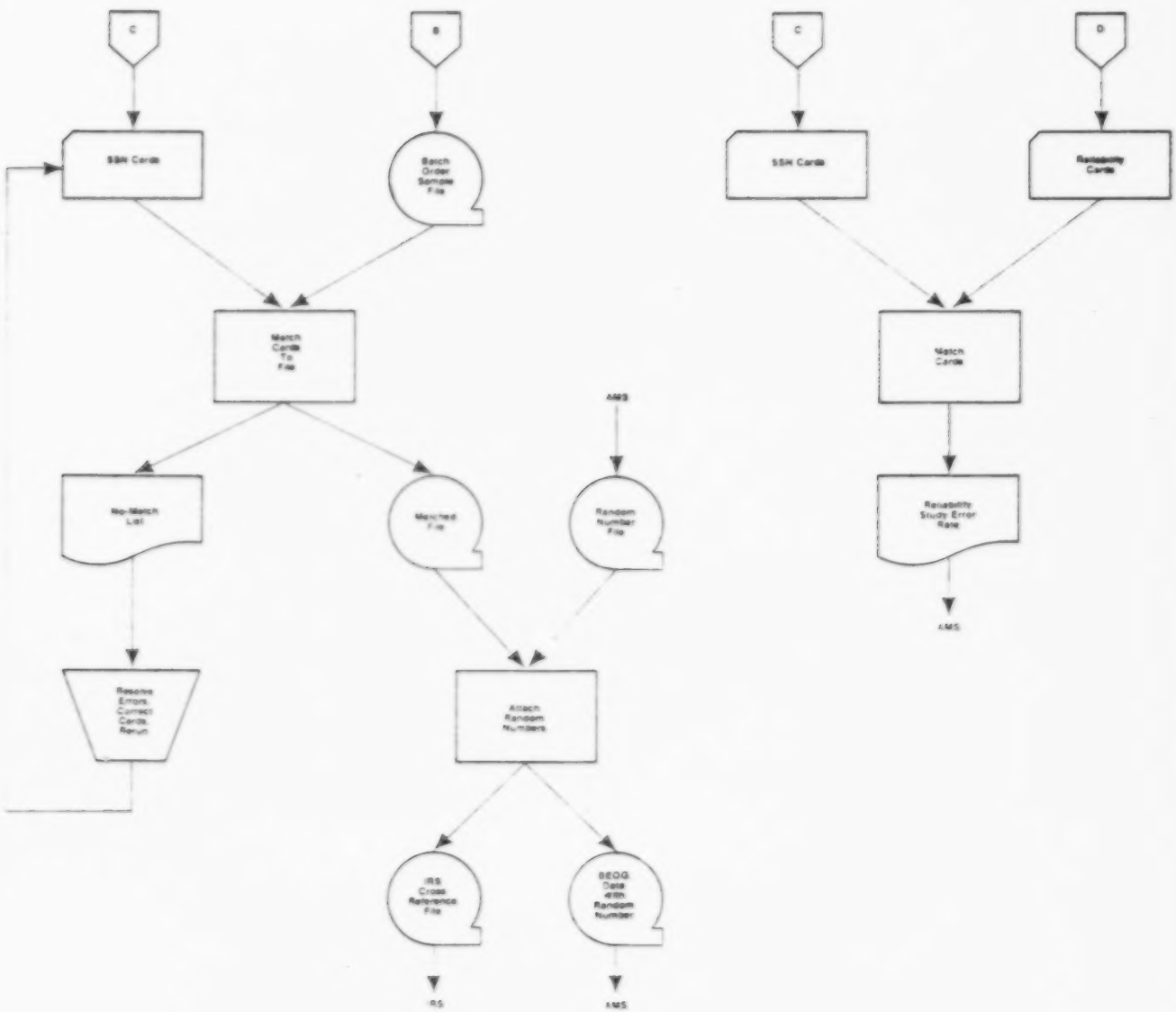


EXHIBIT A.3 (continued)



to the ratio of the desired sample size to the population for each cell in the sample design. Rosters were then generated by batch and serial number to facilitate access to the hard copy files for the parent social security number (SSN) look-up. After the parent social security numbers and first two letters of the parents' name were obtained, they were attached to the sample file. Upon completion of the addition of the parent SSN to the file, Applied Management Sciences supplied a random number file to the BEOG processor. These were also appended, and two new files were created -

1) The IRS Cross Reference File containing the social security numbers, first two letters of the last name, and the random identifiers; and

2) the BEOG File, containing the random identifiers, dependent variables, the independent variables, and omitting the personal identifiers.

A.4: Confidentiality and Security

The issue of the confidentiality of the Basic Grant data and the IRS data was a major concern of Applied Management Sciences, the Office of Education, and the Internal Revenue Service. Therefore, effective safeguards were designed and implemented to ensure that individual identities would never be available during the analysis, and to ensure that it would be impossible to trace the identity of individuals from the presentation of study findings. The procedures described in this section describe how anonymity was maintained before, during, and after the data linkage.

The concern for data security and confidentiality focused on the nature of the agreement between the Office of Education and the Internal Revenue Service. Because the Office of Education's goal in the conduct of this study was to determine the overall scope and nature of misreporting, it was a given fact that the IRS data would never be used as a basis for contacting an individual and/or changing an individual's Basic Grant record. Rather, the Office of Education was interested in the findings only as they related to groups or categories of individuals.

Although it was understood that findings would be presented in terms of groups and categories of applicants, it was still necessary to match individual records before the grouped findings could be generated. For this reason, a series of rigid precautions had to be built into the study design to assure that individually identifiable IRS data could not be accessed by OE or its contractors, and that the individually identifiable BEOG data could not be accessed by IRS.

The plan that was followed to secure the data involved five agencies. The essence of this plan was that no agency would at any time possess individually identifiable records of both BEOG and IRS data, and that all intermediate files would be destroyed. The five agencies and their roles are described below:

1. The Office of Education served as the study coordinator and overseer. OE was involved in specifying and approving all procedures, and in making arrangements among the other four agencies. OE was not involved in any data processing activities.

2. The validation contractor served as OE's prime contractor for supplying sampling specifications for drawing the sample of BEOG records, generating random identifiers to be substituted for personal identifiers, and the specifications for conducting the data analysis. The validation contractor performed no inhouse computer processing.

3. The processing contractor is currently under contract to OE for routine processing and maintenance of the BEOG files. The processing contractor performed computer processing to select the BEOG sample according to specifications provided by the validation contractor and approved by OE and IRS. Two files were developed - the IRS Cross-Reference File which contained random identifiers, social security numbers, and first two letters of the last name, and the BEOG file which contained random identifiers and the BEOG data. The IRS Cross Reference File was forwarded to IRS and the BEOG file to the independent computer processor.

4. The Internal Revenue Service was involved in reviewing and approving all procedures before they were implemented. IRS was provided

the Cross-Reference File developed by the processing contractor. This file contained social security numbers, first two characters of the last name, and random identifiers. IRS performed data processing to prepare another file containing the IRS adjusted gross income, taxes paid, exemptions, signature date, and filing status. IRS removed the social security numbers and last name identifiers and retained the random identifier. This file was provided to an independent computer service center for analysis.

5. The independent computer center linked the BEOG and IRS data according to the specifications provided by the validation contractor. The BEOG and IRS data were merged and the random identifiers were stripped from the file, thus preventing any tracing back to individuals. This was performed by the computer center personnel, who were not informed that the input files contained BEOG and IRS data. Computer personnel only knew that the data were confidential and had to be secured in locked steel cabinets, and could only be removed for computer runs. Once the merge had occurred, all intermediate files were destroyed by the IRS, the processing contractor, and the independent computer center.

In addition to implementing a plan which assured that both the individually identifiable BEOG and IRS data were never in the possession of a single agency, other precautions were taken to prevent individuals from being traced. These include the following:

1. All personal identifiers had been removed from the BEOG and IRS records prior to linkage. Linkage was accomplished by matching random identifiers that had been substituted for personal identifiers.

2. Once the merge was successful the random identifiers were also stripped from the file.

3. No copies were made of any of the intermediate computer files developed by any of the participating agencies.

4. All intermediate computer files were destroyed once it was determined that the linkage was successful.

5. The analysis programs were written so that asterisks appeared in all table cells containing less than ten observations.

A.5: Data Linkage

Once the sample had been drawn, the IRS Cross-Reference File was forwarded to IRS by the processing contractor. Concurrently, the file containing the BEOG data was forwarded to the independent computer center pending receipt of the IRS data. IRS attempted to match every social security number and last name contained on the Cross-Reference File with the IRS Master File, which contains a record of all persons filing a Federal Income Tax return. Exhibit A.4 displays an overview of data processing performed by IRS. A "complete match" was defined as a match on social security number and first two characters of the last name, and the presence of a 1973 return and a 1974 return. IRS was also asked to provide data for incomplete matches as well. For example, if only the 1973 income and tax data were present, a comparison could be made between these variables as reported to BEOG and to IRS; however, no comparison could be made on household size unless a 1974 return was also filed. IRS was also requested to supply data for instances where a match was found on the social security number, but the characters of the last name were not consistent. It was felt that many of these cases could represent a complete match due to name changes; however, it was also understood that an inconsistency between last names might also mean that the records represented two different people.

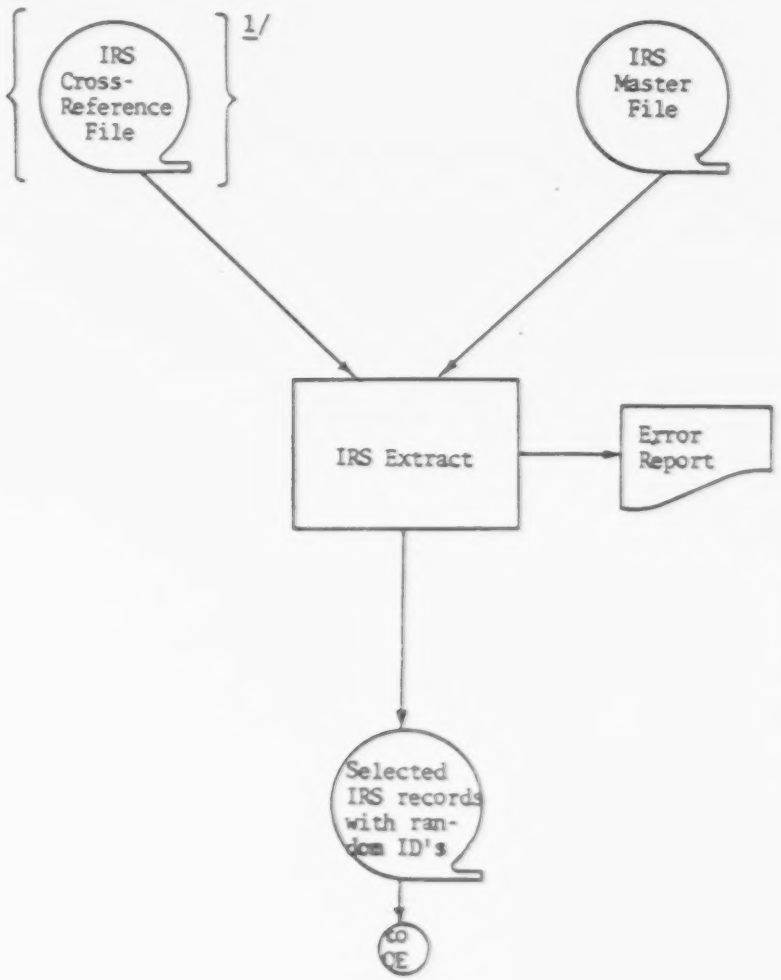
After the IRS had copied the 1973 and 1974 AGI, total acceptable tax, exemptions, filing date, and filing status, the social security numbers were deleted and the random identifier remained. This file was forwarded to the independent computer center for linkage with the BEOG data. Exhibit A.5 displays the systems flow for the data linkage and report generation.

The IRS/BEOG merge system was divided into three subsystems:

1) Preprocess IRS data

EXHIBIT A.4

DATA PROCESSING PERFORMED BY IRS



1/ IRS Cross-Reference File Supplied by BEOG processor

EXHIBIT A.5

DATA LINKAGE AND ANALYSIS FLOW

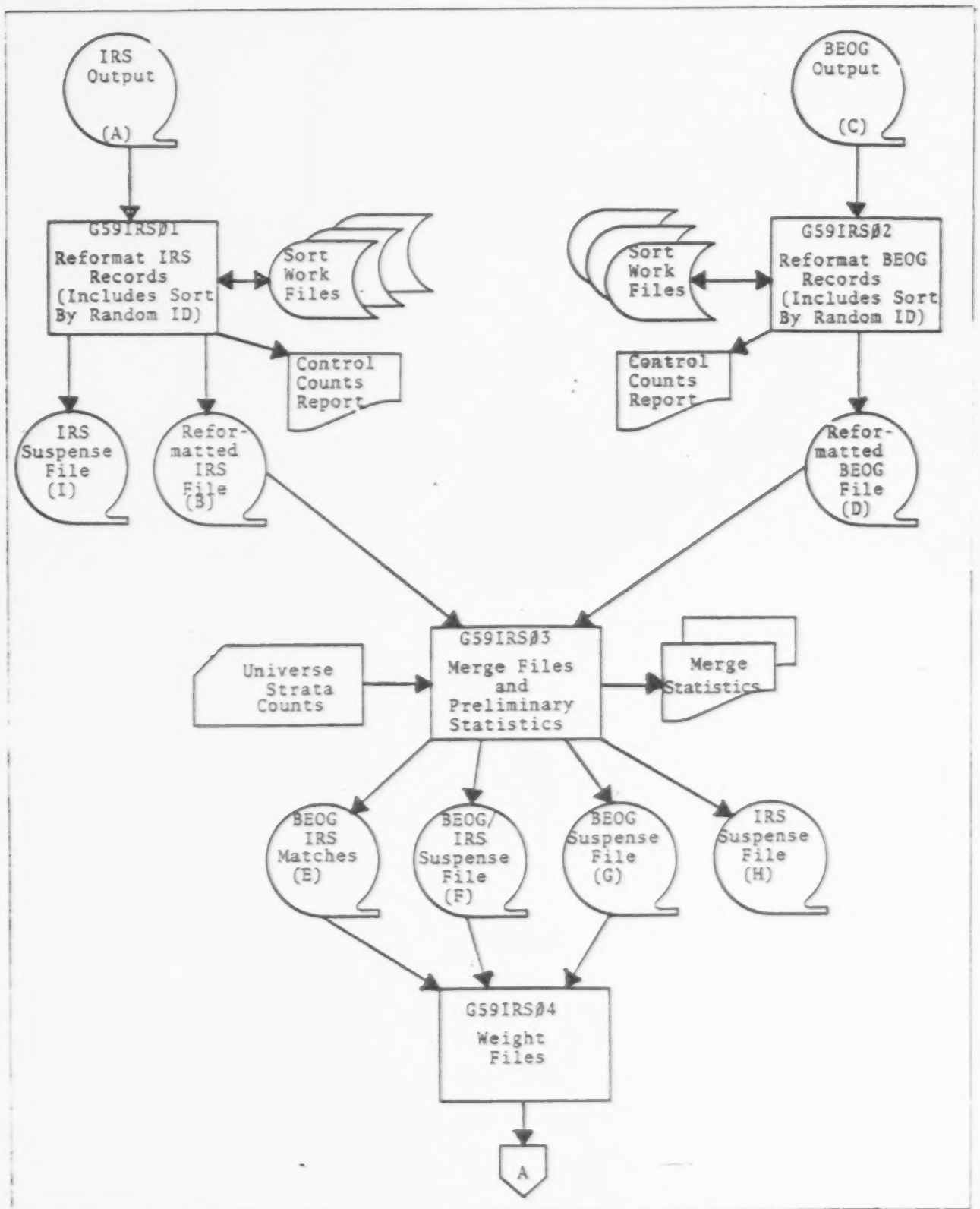
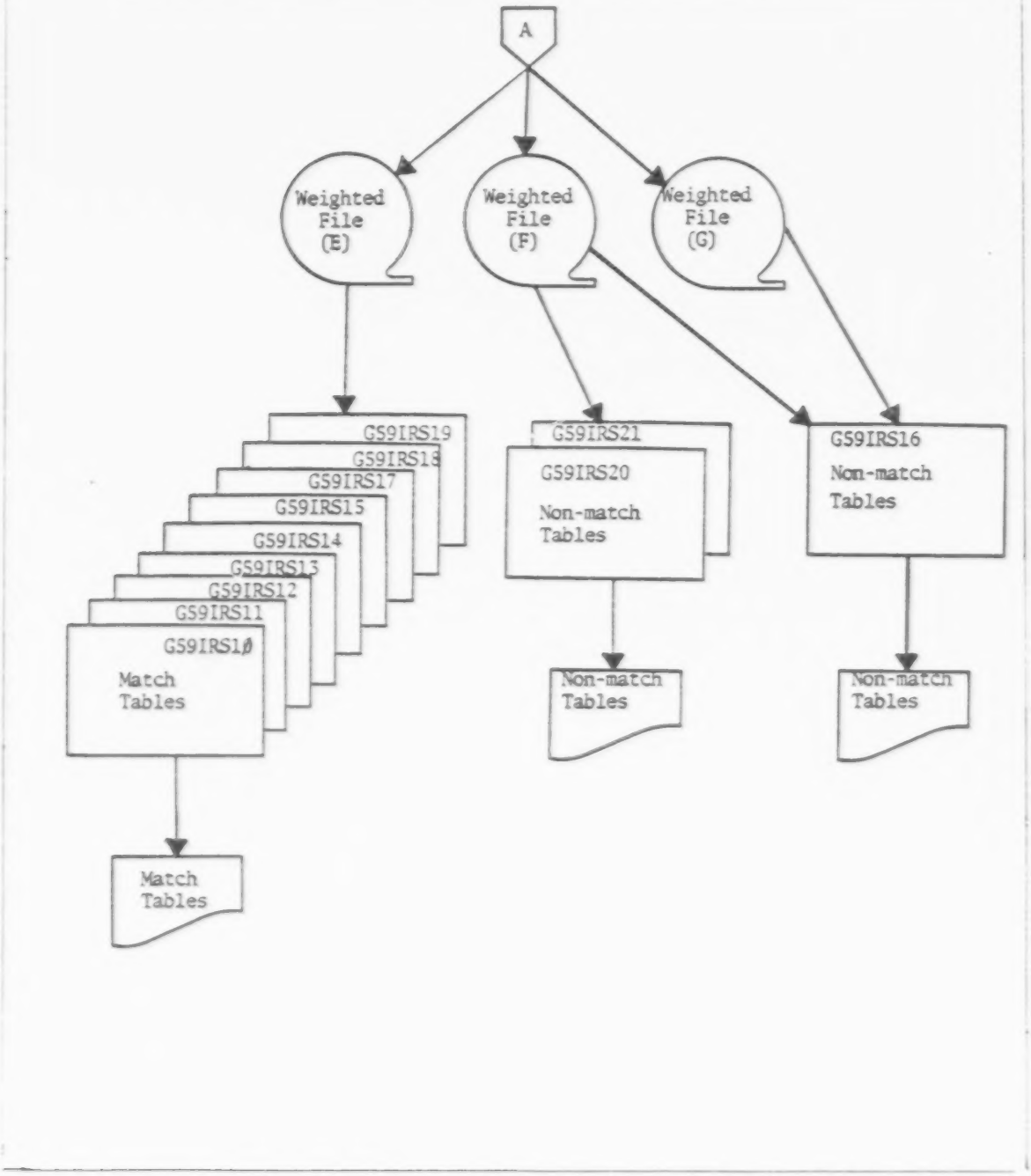


EXHIBIT A.5: (continued)



2) Preprocess BEOG data

3) Merge IRS/BEOG data and create new file

The output of this system was a series of check points to assure that no errors had been made, and a set of files produced as a result of complete matches or various types of non-matches. These files became the input to the file weighting system and the table generation system. The following presentation summarizes these programming activities:

1. Preprocess IRS data

PROGRAM NAME: G59IRSØ1

TITLE: Sort and reformat IRS data

DESCRIPTION: The purpose of G591RSØ1 was to reformat selected fields on the IRS file. Produced as output was a reformatted IRS file sorted by random ID, and a control total report which indicated the number of records sorted by strata code, as well as the number of 1973 and 1974 tax year matches made within each strata code. Also produced was an IRS suspense file consisting of records not identifiable as a student or applicant record, or records with invalid social security numbers. An "invalid" social security number is one that the Social Security Administration has no record of granting.

INPUT: 1) IRS output file to American Management Systems

OUTPUT: 1) Reformatted IRS file sorted by random ID

2) IRS suspense file

3) Control total report

2. Preprocess BEOG data

PROGRAM NAME: G59IRSØ2

TITLE: Sort and reformat BEOG data

DESCRIPTION: The purpose of G59IRSØ2 was to reformat and sort the BEOG Validation Work File into a form suitable for input to G59IRSØ3 which merged it with the reformatted IRS data. Also produced were the following control totals:

1) Count of the frequency of each occurance of trailer segments

2) Count of the presence of each of 20 change flags by STRATA code

INPUT: 1) ACT output to American Management Systems

OUTPUT: 1) Reformatted BEOG file sorted by random ID

2) Control total report to assure that all records were present.

3. Merge IRS/BEOG data and create files

PROGRAM NAME: G59IRSØ3

TITLE: Merge BEOG - IRS files

DESCRIPTION: The purpose of G59IRSØ3 was to match one or two[1/] (parent or individual) IRS records with one BEOG record, combine the data, and write the resulting record to one of three BEOG format (E, F, or G) files or one IRS error file (H). In addition, a statistics report of the merge was produced.

The file to which any record could be written was determined as follows:

File E (BEOG/IRS File) - contained complete merged records (see (1) and (2) below)

File F (BEOG/IRS Suspense File) - contained records:

1) not conforming to File E decision rules

2) with no name match

3) with no dependency status

4) with model "R" indicating the record was rejected (and should have not been in the input file).

File G (BEOG Suspense File) - contained records:

1) of dependent students which had no parent social security number

2) which have no IRS matches

1/ In order to simplify programming, IRS was asked to provide data for all security numbers provided. This resulted in the dependent applicant's data being provided, although it was never used in analysis since the dependent applicant's parents' information is used in determining Basic Grant eligibility.

File H (IRS Error File) - contained IRS records:

1) with no match to BEOG file

2) with no parent social security number

The following decision rules were used in determining the appropriate file:

(1) If a BEOG record was of a dependent student and the parent SSN flat was not present:

-- the BEOG record was written to File G

-- if an individual IRS record was present it was merged prior to writing to File G

-- if a parent record was present (which should not happen) it was written to File H

(2) Merged records were written to File E only under the following conditions, else out to File F

A) For dependent model Strata 1000 and 2000

-- need at least parent return with 1973 IRS data and name match

B) For independent model Strata 1000 and 2000

-- need at least applicant return with 1973 IRS data and name match

INPUT:

1) Reformatted IRS file (B)

2) Reformatted BEOG file (D)

OUTPUT:

1) BEOG/IRS match file (E)

2) BEOG/IRS suspense file (F)

3) BEOG suspense file

4) IRS error file

5) Merge statistics report

4. Weight files

PROGRAM NAME: G59IRSØ4

TITLE: Weight merged records

DESCRIPTION: Files E, F, and G (which were the input to the table generation system) were weighted by strata code according to the formula UNIVERSE/SAMPLE (N/n). Applying the weights inflated the sample to the ize of the universe, allowing a more meaningful interpretation of the data.

INPUT:
1) Universe/sample count file by strata code
2) Appropriate merge file (E, F, or G)

OUTPUT:
1) Weighted file (E, F, or G)

5. Table Generation

PROGRAM NAMES:
1) G59IRS10
2) G59IRS11
3) G59IRS12
4) G59IRS13
5) GS59IRS14
6) GS59IRS15
7) GS59IRS16
8) GS59IRS17
9) GS59IRS18
10) GS59IRS19
11) GS59IRS20
12) GS59IRS21

TITLES:
1) Series 1000 AGI tables
2) Series 1000 Taxes Paid tables
3) Series 1000 Household size and Exemption tables
4) Series 2000 tables
5) Series 3000 tables (See Estimated Income Studies, Volume 3 of this report)
6) Series 4000 tables (see Estimated Income Studies, Volume 3 of this report)
7) Non-match tables - set 1

8) Series 1000 tables subset

9) Series 3000 tables subset

10) Series 4000 tables subset

11) Non-match tables - set 2

12) Non-match statistics

DESCRIPTION: The table generation programs resulted in the production of cross-tabular data displays which were designed to respond to the study objectives and sub-objectives. All tables were constructed so that the column headers represented levels of the independent variables and the row stubs represented levels of the dependent variables. Independent variables represented applicant characteristics. Dependent variables were measures of discrepancy calculated by subtracting the BEOG-reported data from the IRS-reported data. Accordingly, positive discrepancies indicated that a larger amount had been reported to IRS and that the item in question had been under-reported on the BEOG application. Conversely, negative discrepancies indicated that a smaller amount had been reported to IRS and that the item in question had been over-reported on the BEOG application. No significant discrepancy occurred when the absolute difference between the IRS-reported and BEOG-reported data were judged by OE to be too small to significantly affect the eligibility index. These are defined for each dependent variable in Chapter 3 of this report.

All of the above programs, except G59IRS21 (which was a non-match statistics report generator), represented the extract portion of a generalized table generation system called PROTABS. A PROTABS jobstream consists of:

1) a customized extract program

2) a generalized summary program

3) a generalized print program

The extract program produced an extract file consisting of single table cells which was passed to the summary program. The summary program summarized the cells into table image data lines which were passed to the print program. The print program merged the summary lines with a pre-established header file and printed the tables. The print program also replaced all cells smaller than 10 with an asterisk. The final output of the total system consisted of a set of tables

based on four variables of interest:

1) Adjusted gross income
2) Taxes paid
3) Household size and exemptions
4) Recalculated eligibility indices

The appropriate dependent variable of interest was tabularized according to an IRS/BEOG discrepancy range versus any one of a number of independent variables.

INPUT: 1) Merged IRS/BEOG record

OUTPUT: 1) Data cell file which is passed to summary and print

APPENDIX B

NUMBER AND PERCENT OF SAMPLE THAT MATCHED AND FAILED TO MATCH IRS RECORDS

APPENDIX B: NUMBER AND PERCENT OF SAMPLE THAT MATCHED AND FAILED TO MATCH IRS RECORDS

ELIGIBLES, NONESTIMATED INCOME

STRATA	SAMPLE SIZE	NUMBER and PERCENT OF SAMPLE MERGED	NUMBER and PERCENT LOSS TOTAL	NUMBER and PERCENT LOSS-NO PARENT SSN	NUMBER and PERCENT LOSS-NO NAME MATCH	NUMBER and PERCENT LOSS-ALL OTHER
1110-DEP Less than $4,000	31,181	8,181 26.24%	23,000 73.76%	5,995 19.22%	732 2.34%	16,273 52.19%
1120-IND Less than $4,000	19,484	7,728 39.66%	11,756 60.34%	-	540 2.77%	11,216 57.56%
1210-DEP $4,000-$6,999	18,154	11,666 64.26%	6,488 35.74%	2,496 13.75%	598 3.29%	3,394 18.7%
1220-IND $4,000-$6,999	3,684	2,017 54.75%	1,667 45.25%	-	96 2.6%	1,571 42.65%
1310-DEP $7,000-$9,999	18,493	13,439 72.67%	5,054 27.33%	2,155 11.65%	483 2.61%	2,416 13.06%
1320-IND $7,000-$9,999	1,023	456 44.57%	567 55.54%	-	15 1.47%	552 53.95%
1410-DEP $10,000-$12,499	11,666	8,921 76.47%	2,745 23.52%	1,218 10.44%	271 2.32%	1,256 10.77%
1420-IND $10,000-$12,499	503	151 30.01%	352 69.98%	-	10 1.98%	342 68.0%
1510-DEP $12,500-$14,999	5,424	4,284 78.98%	1,140 21.02%	500 9.22%	110 2.03%	530 9.77%
1520-IND $12,500+	67	9 13.43%	58 86.57%	-	-	58 86.57%
1610-DEP $15,000-$17,499	1,569	1,231 78.45%	338 21.54%	156 9.94%	17 1.09%	165 10.52%
1710-DEP $17,500+	639	462 72.30%	177 27.70%	80 12.52%	15 2.35%	82 12.83%
1X10-DEP TOTAL	87,126	48,184 55.30%	38,942 44.70%	12,600 14.46%	2,226 2.55%	24,116 27.68%
1X20-INDEP TOTAL	24,761	10,361 41.84%	14,400 58.15%	-	661 2.67%	13,739 55.49%

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APPENDIX B: (CONTINUED)

INELIGIBLES, NONESTIMATED INCOME

STRATA	SAMPLE SIZE	NUMBER and PERCENT OF SAMPLE MERGED	NUMBER and PERCENT LOSS TOTAL	NUMBER and PERCENT LOSS-NO PARENT SSN	NUMBER and PERCENT LOSS-NO NAME MATCH	NUMBER and PERCENT LOSS-ALL OTHER
2110-DEP Less than $4,000	730	341 46.71%	389 53.29%	52 7.12%	12 1.64%	325 44.52%
2120-IND Less than $4,000	711	503 70.74%	208 29.25%	-	14 1.97%	194 27.28%
2210-DEP $4,000-$6,999	711	538 75.67%	173 24.33%	51 7.17%	6 .84%	116 16.32%
2220-IND $4,000-$6,999	584	576 84.21%	108 15.79%	-	14 2.05%	94 13.74%
2310-DEP $7,000-$9,999	1,003	795 79.26%	208 20.74%	83 8.27%	19 1.79%	107 10.67%
2320-IND $7,000-$9,999	549	346 65.02%	203 36.98%	-	2 .36%	201 36.61%
2410-DEP $10,000-$12,499	1,572	1,298 82.57%	274 17.43%	150 9.26%	29 1.84%	115 7.32%
2420-IND $10,000-$12,499	517	200 38.68%	317 61.31%	-	2 .39%	315 60.92%
2510-DEP $12,500-$14,999	2,345	1,987 84.73%	358 15.27%	178 7.59%	32 1.36%	148 6.31%
2520-IND $12,500+	320	189 36.34%	331 63.65%	-	6 1.13%	325 62.3%
2610-DEP $15,000-$17,499	2,374	1,819 85.67%	355 14.32%	177 8.14%	30 1.38%	148 6.80%
2710-IND $15,000+	6,980	2,926 83.76%	567 16.23%	201 9.65%	67 1.28%	225 6.44%
2720-DEP ALL	12,928	9,756 80.67%	2,524 19.52%	966 9.55%	194 1.66%	1,364 9.66%
2730-IND ALL	2,981	1,814 60.85%	1,167 39.15%	-	38 1.27%	1,129 37.87%

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APPENDIX C

EFFECTS OF NONMATCHED RECORDS EXPRESSED IN TERMS OF A COMPARISON OF POPULATION AND STUDY GROUP PERCENTS FOR RELEVANT APPLICANT CHARACTERISTICS

APPENDIX C

EFFECTS OF NONMATCHED RECORDS
EXPRESSED IN TERMS OF A COMPARISON OF
POPULATION AND STUDY GROUP PERCENTS FOR
RELEVANT APPLICANT CHARACTERISTICS

ELIGIBLES	TOTAL		DEPENDENT		INDEPENDENT	
	% in POPULATION	% in STUDY GROUP	% in POPULATION	% in STUDY GROUP	% in POPULATION	% in STUDY GROUP
ELIGIBLE TOTALS -	100	100	78	82	22	18
1. Income less than $4,000	46	27	36	17	80	76
2. $4,000 to $6,999	20	23	21	24	15	20
3. $7,000 to $9,999	18	24	21	28	4	5
4. $10,000 to $12,499	11	15	13	19	-	-
5. $10,000 or more	-	-	-	-	.4	.3
6. $12,500 to $14,999	5	7	6	9	-	-
7. $15,000 to $17,499	1	2	1	3	-	-
8. $17,500 or more	.4	.5	1	1	-	-
9. Divorced, widowed, separated	36	29	38	29	32	28
10. Farm assets present	3	4	4	5	0	0
11. Business assets present	3	4	4	5	0	1
12. Social security benefits present	8	5	10	5	3	3
13. Veteran's benefits present	3	3	2	1	8	11
14. Negative AGI	.2	.3	.3	.4	0	0
15. Other income present	36	22	34	20	45	28
16. No other income present	64	79	66	80	55	72
17. EOG signature prior to April 15	15	16	-	-	-	-
18. EOG signature after April 15	85	84	-	-	-	-
19. Rejected for income reasons	8	7	9	7	6	7
20. Changed assumed AGI	.5	.3	.6	.3	.3	.3
21. Did not change assumed AGI	1	2	1	1	1	3
22. AGI change not requested	4	3	3	3	5	6
23. Taxes paid less than $500	74	63	69	57	94	92
24. Taxes paid $500 to $1,000	16	23	19	27	5	7
25. Taxes paid $1,001 or more	10	14	12	16	1	1
26. Rejected for tax reasons	6	5	7	6	2	2
27. Taxes paid change not requested	2	3	2	2	3	4
28. Household size of 2	17	12	7	4	51	39
29. Household size of 4	53	53	53	53	51	51
30. Household size of 6	28	35	39	43	14	9

APPENDIX C (continued)

EFFECTS OF NONMATCHED RECORDS EXPRESSED IN TERMS OF A COMPARISON OF POPULATION AND STUDY GROUP PERCENTS FOR RELEVANT APPLICANT CHARACTERISTICS

ELIGIBLES	TOTAL		DEPENDENT		INDEPENDENT	
	% in POPULATION	% in STUDY GROUP	% in POPULATION	% in STUDY GROUP	% in POPULATION	% in STUDY GROUP
ELIGIBLE TOTALS -	100	100	78	82	22	18
31. Household size 6 +	22	22	27	26	3	2
32. Exemptions 1 to 2	20	20	12	12	56	66
33. Exemptions 3 to 4	33	32	33	33	31	26
34. Exemptions 5 to 6	29	29	33	33	9	6
35. Exemptions 6 +	19	19	23	22	3	2
36. Applicants who changed assumed household size	.8	.4	.3	.1	3	2
37. Applicants who did not change assumed household size	3	5	.4	.4	8	8
38. Applicants with household size equal to exemptions	53	63	-	-	-	-
39. Applicants with household size greater than exemptions	38	22	-	-	-	-
40. Applicants with no corrections	71	77	-	-	-	-
41. Applicants with 1 correction	23	19	-	-	-	-
42. Applicants with 2 corrections	5	3	-	-	-	-
43. Applicants with 3 or more corrections	1	1	-	-	-	-

APPENDIX C (continued)

EFFECTS OF NONMATCHED RECORDS
EXPRESSED IN TERMS OF A COMPARISON OF
POPULATION AND STUDY GROUP PERCENTS FOR
RELEVANT APPLICANT CHARACTERISTICS

INELIGIBLES	TOTAL		DEPENDENT		INDEPENDENT	
	% in POPULATION	% in STUDY GROUP	% in POPULATION	% in STUDY GROUP	% in POPULATION	% in STUDY GROUP
INELIGIBLE TOTALS -	100	100	84	87	16	13
1. Income less than $4,000	9	7	6	3	29	31
2. $4,000 to $6,999	9	9	5	5	28	36
3. $7,000 to $9,999	10	10	8	8	20	19
4. $10,000 to $12,499	13	13	13	14	12	7
5. $12,500 or more	-	-	-	-	12	7
6. $12,500 to $14,999	18	19	20	21	-	-
7. $15,000 to $17,499	15	16	18	19	-	-
8. $17,500 or more	25	26	29	30	-	-
9. Divorced/widowed/ separated	13	10	13	10	14	13
10. Signed before April 15	17	18	-	-	-	-
11. Signed after April 15	83	82	-	-	-	-

APPENDIX D

PERCENT OF SAMPLE SELECTED FOR WHICH IRS MATCHES WERE FOUND

APPENDIX D

PERCENT OF SAMPLE SELECTED FOR WHICH IRS MATCHES WERE FOUND

	TOTAL	DEPENDENT	INDEPENDENT
Eligibles	52	55	42
Income less than $4,000	-	26	40
$4,000 to $6,999	-	64	55
$7,000 to $9,999	-	73	44
$10,000 to $12,499	-	76	16**
$12,500 to $14,999	-	79	-
$15,000 to $17,499	-	78	-
$17,500 or more	-	73	-
Divorced/widowed/ separated	42	43	37
Farm assets	70	70	*
Business assets	72	72	19
Veteran's Benefits	48	35	61
Social Security Benefits	30	38	30
Other income	31	33	27
No Other Income	64	67	54
Negative AGI	72	73	40
Signed Before April 15	57	-	-
Signed After April 15	51	-	-
No corrections	57	-	-
One correction	43	-	-
Two corrections	39	-	-
More than two corrections	31	-	-

**Independents with incomes above $10,000.
*Insignificant number.

	TOTAL	DEPENDENT	INDEPENDENT
Rejected for income reasons	45	44	51
Assumed AGI not changed	57	50	81
Assumed AGI changed	28	26	38
AGI change not requested	47	44	53
Taxes paid $0 to $500	-	43	41
$401 to $1000	-	77	55
$1,001 or more		75	48
Rejected for taxes paid	48	48	47
Taxes paid changed, but not requested	57	57	58
Household Size			
1-2	-	45	37
3-4	-	54	28
5-6	-	56	24
7-8	-	53	23
8+	-	46	26
Household Size Equal to Exemptions	64	-	-
Household Size Greater than Exemptions	50	-	-
Assumed Household Size Changed	24	22	25
Assumed Household Size Not Changed	96	86	98
Ineligibles	77	81	61
Income less than $4,000	-	47	71
$4,000 to $6,999	-	76	84

	TOTAL	DEPENDENT	INDEPENDENT
$7,000 to $9,999	-	79	63
$10,000 to $12,499	-	82	39
$12,500 to $14,999	-	86	36*
$15,000 to $17,499	-	84	-
$17,500 or more	-	84	-

*Independents with incomes above $12,500

APPENDIX E

DISCUSSION OF FACTORS AFFECTING DATA LINKAGE

APPENDIX E

DISCUSSION OF FACTORS AFFECTING DATA LINKAGE

A major area which influenced the viability of data linkage was the BEOG processing procedures. The applicant's social security number is used by the BEOG processor as the identifier for accessing individual records. An application cannot be processed without a social security number. Consequently, all applicant records selected contained a social security number. The validity of these social security numbers, however, cannot be fully determined. It is known that the only means of assuring the validity of social security numbers are: 1) to determine if any are duplicated on another record in the BEOG data base, and 2) to allow the applicant to correct erroneous social security numbers, if they are discovered by the applicant. The BEOG processor does not match the Social Security Administration master file to determine whether particular numbers were valid, nor does the processor use Social Security Administration information to determine whether all reported numbers had been assigned. Consequently, some matches did not occur because the social security number reported on the BEOG application was incorrect.

A recent Social Security Administration report[1/] from interagency data linkage studies revealed that fourteen to twenty-five year olds were less likely to report an SSN than individuals at older ages who responded to the March 1973 Current Population Survey. The report further stated that within this group, 17 year olds were the least likely to report a number, with only 46 percent reporting a number. Recognizing, of course, that the Current

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[1/] Frederick Scheuren et al, "Studies from Interagency Data Linkages, Report #4: Exact Match Research using the March 1973 Current Population Survey - Initial States." (Social Security Administration, July, 1975), p. 23.

population data are gathered by individual interviewers who may fail to request the SSN, it is still reasonable to infer that many persons in this age group - which is also the age group of the majority of BEOG applicants - either do not have or do not know their social security number. Therefore, it is further inferred that some proportion of BEOG applicants supply a fictitious or incorrect SSN for themselves or their parent in order to have their application processed.

A second factor associated with the BEOG processing system is that the social security number of the dependent applicant's parent is requested, but is not required for an application to be processed. Consequently, 14 percent of the dependent's records could not be linked with IRS data because the parent social security number was not present in the BEOG file. This figure is not unusually high - investigations into other Federal programs which request social security numbers have even higher rates of non-reported social security numbers. For example, 20 percent of the Census Current Population Survey respondents typically fail to supply an SSN. This suggests that omitted SSNs may be a random occurrence.

A third factor related to the BEOG application procedures and processing system is keypunch errors. Applicant records are entered onto the automated data base via punched cards. According to the BEOG processor, the overall keypunch error rate is less than one percent. Another source of error in this study resulted from the fact that parent social security numbers had to be accessed from the hard copy files and transcribed onto a coding sheet for key entry into the study files, instead of direct punching from the application. A reliability study was performed on ten percent of the total sample, or approximately 13,000 records. This study revealed that 1.7 percent of the parent social security numbers transcribed onto the study files differed from those contained in the hard copy records.

In addition to missing and erroneous social security numbers, there are several other reasons why a match may not occur. One reason is that the IRS social security number may be incorrect. Although the IRS validates SSN's against the Social Security Administration's master file, some keypunch errors probably still exist. Further, there is a delay of several months between the time an SSN is granted and it appears on the SSN file. This delay is increased by the fact that BEOG applications are submitted between three and fifteen months after the IRS return is filed. Another reason for nonmatch is that the applicant and/or parent may have become married and changed his/her name between the time the IRS form was filed and the BEOG application was submitted. A third reason is that the applicant may not have filed a tax return.

Two groups which had low match rates have a significant impact on the study findings because they represent two of the major groups of interest - eligible independents and low-income dependents. There are two hypotheses which may explain the low match rate for independents. The first is a function of the IRS master file. This file contains only one social security number per record. Consequently, the secondary taxpayer filing a joint return is not identified on the master file. This implies that it is likely that many of the nonmatched independent records were of married applicants who filed a joint return as the secondary taxpayer. The second explanation regarding the high nonmatch rates for independents could be that many "independents" do not file tax returns because they are really dependent and are claimed on their parent's tax return as exemptions.

The second large applicant group which had a low match rate was eligibles with incomes under $4,000. A low match rate for this group was anticipated because many persons in this income range do not have an earned income large enough to necessitate filing a

Federal Income Tax return. The loss of this group from the study findings, unfortunately does cause an obvious bias - because IRS records are not likely to be available for a large portion of "true" low income people, it can be expected that the matched set of records used in the analysis may be comprised largely of persons who reported a low income to BEOG, but reported a higher income to IRS.

In summary, it appears that the rate of nonmatch occurring in this study could be attributed to three major factors - the BEOG and IRS processing procedures, the study design, and the uniqueness of the BEOG population. With the exception of the loss of low income eligibles who did not file a tax return, it appears that most of the nonmatch probably occurred randomly. It should be emphasized, however, that the majority of the nonmatch occurred because of the large portion of low income eligibles in the BEOG population who had not filed a Federal Income Tax return. Therefore, findings based upon the matched group must be interpreted in light of this fact.

APPENDIX F

ELIGIBLE APPLICANTS
ADJUSTED GROSS INCOME DISCREPANCIES BY DEPENDENCY STATUS

		BEOG REPORTED DEPENDENCY STATUS		
		TOTAL	DEPENDENT	INDEPENDENT
Total Positive Discrepancies greater than $200		74,057	54,403	19,654
	Total %	21.2	15.6	5.6
	Column %		18.9	32.0
$2001 or more		32,659	26,008	6,651
	Total %	9.3	7.4	1.9
	Column %		9.0	10.8
$1001 to $2000		15,440	10,658	4,782
	Total %	4.4	3.0	1.4
	Column %		3.7	7.8
$501 to $1000		14,043	9,544	4,499
	Total %	4.0	2.7	1.3
	Column %		3.3	7.3
$201 to $500		11,915	8,193	3,722
	Total %	3.4	2.3	1.1
	Column %		2.8	6.0
±$200		249,238	213,464	35,774
	Total %	71.3	61.1	10.2
	Column %		74.1	58.3
-$201 to -$500		5,619	3,909	1,710
	Total %	1.6	1.1	.5
	Column %		1.3	2.8
-$501 to -$1000		5,497	3,906	1,591
	Total %	1.6	1.1	.4
	Column %		1.3	2.6
-$1001 to -$2000		5,648	4,140	1,508
	Total %	1.6	1.2	.4
	Column %		1.4	2.4
-$2000 or less		9,437	8,328	1,109
	Total %	2.7	2.4	.3
	Column %		2.9	1.8
Total Negative less than -$200		26,201	20,283	5,918
	Total %	7.5	5.8	1.7
	Column %		7.0	9.6
TOTAL MATCHED GROUP		349,496	288,150	61,346
	Total %		82.4	17.5

APPENDIX G

INELIGIBLE APPLICANTS
ADJUSTED GROSS INCOME DISCREPANCIES BY DEPENDENCY STATUS

		BEOG REPORTED DEPENDENCY STATUS		
		TOTAL	DEPENDENT	INDEPENDENT
Total Positive Discrepancies greater than $200	Total %	27,860 8.4	21,965 6.6	5,895 1.8
	Column %		7.6	13.6
$2001 or more		9,631	8,472	1,159
	Total %	2.9	2.5	.3
	Column %		2.9	2.7
$1001 to $2000		5,966	4,462	1,504
	Total %	1.8	1.3	.4
	Column %		1.5	3.5
$501 to $1000		5,978	4,417	1,561
	Total %	1.8	1.3	.5
	Column %		1.5	3.6
$201 to $500		6,285	4,614	1,671
	Total %	1.9	1.4	.5
	Column %		1.6	3.9
± $200		287,531	254,916	32,615
	Total %	86.7	76.9	9.8
	Column %		88.4	75.4
-$201 to -$500		2,229	1,530	699
	Total %	.7	.5	.2
	Column %		.5	1.6
-$501 to -$1000		2,930	1,837	1,093
	Total %	.9	.5	.3
	Column %		.6	2.5
-$1001 to -$2000		2,744	2,005	739
	Total %	.8	.6	.2
	Column %		.7	1.7
-$2000 or Less		8,350	6,147	2,203
	Total %	2.5	1.8	.7
	Column %		2.1	5.0
Total Negative less than -$200		16,253	11,519	4,734
	Total %	4.9	3.5	1.4
	Column %		4.0	10.9
TOTAL MATCHED GROUP		331,644	288,400	43,244
	Total %		87.0	13.0

APPENDIX H

ELIGIBLE APPLICANTS

ADJUSTED GROSS INCOME DISCREPANCIES BY ADJUSTED GROSS INCOME, DEPENDENTS

		BEOG REPORTED ADJUSTED GROSS INCOME						
	TOTAL	LESS THAN $4,000	$4,000-$6,999	$7,000-$9,999	$10,000-$12,499	$12,500-$14,999	$15,000-$17,499	$17,500+
Total Positive Discrepancies								
Greater than $200	54,371	12,936	12,867	14,757	9,231	3,411	957	212
Total %	18.9	4.5	4.5	5.1	3.2	1.2	.3	.1
Column %		26.3	18.4	18.3	17.2	13.3	13.0	11.3
$2,001 or more	26,000	5,910	5,560	7,648	4,792	1,612	406	72
Total %	9.0	2.0	1.9	2.6	1.6	.5	.1	.0
Column %		12.0	7.9	9.5	9.0	6.3	5.5	3.8
$1,001 to $2,000	10,650	2,856	2,536	2,584	1,774	676	172	52
Total %	3.7	1.0	.9	.9	.6	.2	.0	.0
Column %		5.8	3.6	3.2	3.3	2.6	2.3	2.8
$501 to $1,000	9,536	2,352	2,548	2,398	1,396	586	208	48
Total %	3.3	.8	.9	.8	.5	.2	.1	.0
Column %		4.8	3.6	3.0	2.6	2.3	2.8	2.6
$201 to $500	8,185	1,818	2,223	2,127	1,269	537	171	40
Total %	2.8	.6	.8	.7	.4	.2	.0	.0
Column %		3.7	3.2	2.6	2.4	2.1	2.3	2.1
+$200	213,437	31,788	50,939	60,731	41,392	21,100	5,968	1,519
Total %	74.0	11.0	17.7	21.1	14.4	7.3	2.0	.5
Column %		64.7	72.8	75.3	77.3	82.1	81.1	81.0
-$201 to -$500	3,909	888	1,257	885	531	261	63	24
Total %	1.3	.3	.4	.3	.2	.1	.0	.0
Column %		1.8	1.8	1.1	1.0	1.0	.8	1.3
-$501 to -$1,000	3,902	1,128	1,114	880	520	184	52	24
Total %	1.3	.4	.4	.3	.2	.1	.0	.0
Column %		2.3	1.6	1.1	1.0	.7	.7	1.3
-$1,001 to $2,000	4,140	1,278	1,306	904	460	142	34	16
Total %	1.4	.4	.4	.3	.1	.0	.0	.0
Column %		2.6	1.9	1.1	.8	.5	.5	.8
-$2,001 or less	8,320	1,068	2,488	2,452	1,366	580	286	80
Total %	2.9	.4	.9	.8	.5	.2	.1	.0
Column %		2.2	3.5	3.0	2.5	2.2	3.9	4.3
Total Negative Less than -$200	20,271	4,362	6,165	5,121	2,877	1,167	435	144
Total %	7.0	1.5	2.1	1.7	1.0	.4	.1	.0
Column %		8.9	8.8	6.3	5.4	4.5	5.9	7.6
TOTAL MATCHED GROUP	288,079	49,086	69,971	80,609	53,500	25,678	7,360	1,875
Total %		17.0	24.3	28.0	18.6	8.9	2.5	.6

APPENDIX I

ELIBIBLE APPLICANTS

ADJUSTED GROSS INCOME DISCREPANCIES BY
ADJUSTED GROSS INCOME, INDEPENDENTS

		BEOG REPORTED ADJUSTED GROSS INCOME				
		TOTAL	LESS THAN $4,000	$4,000-$6,999	$7,000-$9,999	$10,000+
Total Positive Discrepancies Greater than $200		19,623	17,193	1,968	462	*
	Total %	32.0	28.0	3.2	.7	
	Column %		37.1	16.3	17.0	
$2,001 or more		6,640	5,944	528	168	*
	Total %	10.8	9.7	.9	.3	
	Column %		12.8	4.4	6.2	
$1,001 to $2,000		4,774	4,072	594	108	8
	Total %	7.8	6.6	1.0	.2	
	Column %		8.8	4.9	4.0	
$501 to $1,000		4,492	3,928	480	84	*
	Total %	7.3	6.4	.8	.1	
	Column %		8.5	4.0	3.0	
$201 to $500		3,717	3,249	366	102	*
	Total %	6.1	5.3	.6	.2	
	Column %		7.0	3.0	3.7	
±$200		35,749	25,349	8,334	1,974	92
	Total %	58.3	41.4	13.6	3.2	.1
	Column %		54.7	68.9	72.5	100
-$201 to -$500		1,701	1,365	312	24	*
	Total %	2.8	2.2	.5	.0	
	Column %		2.9	2.6	.9	
-$501 to -$1,000		1,588	1,180	330	78	*
	Total %	2.6	1.9	.5	.1	
	Column %		2.5	2.7	3.0	
-$1,001 to -$2,000		1,504	1,006	444	54	*
	Total %	2.4	1.6	.7	.1	
	Column %		2.2	3.7	2.0	
-$2,000 or less		1,096	250	714	132	*
	Total %	1.8	.4	1.2	.2	
	Column %		.5	5.9	4.8	
Total Negative Less than -$200		5,889	3,801	1,800	288	*
	Total %	9.6	6.2	2.9	.5	
	Column %		8.2	14.9	10.6	
TOTAL MATCHED GROUP		61,261	46,343	12,102	2,724	92
	Total %		75.6	19.7	4.4	.1

APPENDIX J

INELIGIBLE APPLICANTS

ADJUSTED GROSS INCOME DISCREPANCIES BY ADJUSTED GROSS INCOME, DEPENDENTS

BEOG REPORTED ADJUSTED GROSS INCOME

	TOTAL	LESS THAN $4,000	$4,000-$6,999	$7,000-$9,999	$10,000-$12,499	$12,500-$14,999	$15,000-$17,499	$17,500+
Total Positive Discrepancies Greater than $200	21,912	1,125	882	2,091	3,531	3,891	4,611	5,781
Total %	7.6	.4	.3	.7	1.2	1.3	1.6	2.0
Column %		12.2	6.1	8.8	9.1	6.5	8.4	6.6
$2,001 or more	8,461	268	403	988	1,588	1,438	1,738	2,038
Total %	2.9	.1	.1	.3	.5	.5	.6	.7
Column %		2.9	2.8	4.1	4.1	2.4	3.2	2.3
$1,001 to $2,000	4,450	457	133	508	448	808	1,138	958
Total %	1.5	.1	.0	.2	.1	.3	.4	.3
Column %		5.0	.9	2.1	1.1	1.3	2.1	1.1
$501 to $1,000	4,405	241	214	328	628	838	778	1,378
Total %	1.5	.1	.1	.1	.2	.3	.3	.5
Column %		2.6	1.5	1.4	1.6	1.4	1.4	1.6
$201 to $500	4,596	159	132	267	867	807	957	1,407
Total %	1.6	.0	.0	.1	.3	.3	.3	.5
Column %		1.7	.9	1.1	2.2	1.3	1.7	1.6
±$200	254,880	7,685	12,457	20,776	33,846	54,019	47,834	78,263
Total %	88.4	2.6	4.3	7.2	11.7	18.7	16.6	27.1
Column %		83.7	86.0	87.2	87.9	90.6	87.7	89.1
-$201 to -$500	1,513	78	159	58	417	237	297	267
Total %	.5	.0	.0	.0	.1	.1	.1	.1
Column %		.8	1.1	.2	1.0	.4	.5	.3
-$501 to -$1,000	1,827	53	133	119	268	298	298	658
Total %	.6	.0	.0	.0	.1	.1	.1	.2
Column %		.6	.9	.5	.7	.5	.5	.7
-$1,001 to -$2,000	1,993	106	187	178	298	388	358	478
Total %	.7	.0	.1	.1	.1	.1	.1	.2
Column %		1.1	1.3	.7	.8	.6	.6	.5
-$2,001 or less	6,136	133	673	598	538	748	1,138	2,308
Total %	2.1	.0	.2	.2	.2	.2	.4	.8
Column %		1.4	4.6	2.5	1.4	1.2	2.1	2.6
Total Negative less than -$200	11,469	370	1,152	953	1,521	1,671	2,091	3,711
Total %	4.0	.1	.4	.3	.5	.6	.7	1.3
Column %		4.0	7.9	4.0	3.9	2.8	3.8	4.2
TOTAL MATCHED GROUP	288,261	9,180	14,491	23,820	38,898	59,581	54,536	87,755
Total %		3.2	5.0	8.3	13.5	20.7	18.9	30.4

APPENDIX K

INELIGIBLE APPLICANTS

ADJUSTED GROSS INCOME DISCREPANCIES BY ADJUSTED GROSS INCOME, INDEPENDENTS

		BEOG REPORTED ADJUSTED GROSS INCOME				
	TOTAL	LESS THAN $4,000	$4,000-$6,999	$7,000-$9,999	$10,000-$12,499	$12,500+
Total Positive Discrepancies Greater than $200	5,881	2,961	1,647	912	217	144
Total %	13.6	6.8	3.8	2.1	.5	.3
Column %		21.8	10.6	11.0	7.3	5.0
$2,001 or more	1,156	619	216	264	43	14
Total %	2.7	1.4	.5	.6	.1	.0
Column %		4.6	1.4	3.2	1.4	.5
$1,001 to $2,000	1,501	727	567	120	29	58
Total %	3.5	1.7	1.3	.3	.1	.1
Column %		5.4	3.6	1.4	1.0	2.0
$501 to $1,000	1,557	808	432	216	58	43
Total %	3.6	1.9	1.0	.5	.1	.1
Column %		6.0	2.7	2.6	1.9	1.5
$201 to $500	1,667	807	432	312	87	29
Total %	3.8	1.9	1.0	.7	.2	.1
Column %		5.9	2.7	3.7	2.9	1.0
±$200	32,603	9,659	12,123	6,456	2,362	2,003
Total %	75.4	22.3	28.0	14.9	5.5	4.6
Column %		71.2	77.9	77.7	79.3	71.1
-$201 to -$500	696	267	324	48	28	29
Total %	1.6	.6	.7	.1	.1	.1
Column %		2.0	2.1	.6	1.0	1.0
-$501 to -$1,000	1,090	376	324	288	29	73
Total %	2.5	.9	.7	.7	.1	.2
Column %		2.8	2.1	3.5	1.0	2.6
-$1,001 to -$2,000	737	160	351	168	29	29
Total %	1.7	.4	.8	.4	.1	.1
Column %		1.2	2.2	2.0	1.0	1.0
-$2,001 or less	2,199	133	783	432	313	538
Total %	5.1	.3	1.8	1.0	.7	1.2
Column %		1.0	5.0	5.2	10.5	19.1
Total Negative less than -$200	4,722	936	1,782	936	399	669
Total %	10.9	2.1	4.1	2.2	.9	1.5
Column %		6.9	11.4	11.3	13.4	23.7
TOTAL MATCHED GROUP	43,206	13,556	15,552	8,304	2,978	2,816
Total %		31.4	36.0	19.2	6.9	6.5

APPENDIX L

ELIGIBLE APPLICANTS
TAXES PAID DISCREPANCIES BY DEPENDENCY STATUS

		BEOG REPORTED DEPENDENCY STATUS		
		TOTAL	DEPENDENT	INDEPENDENT
Total Positive Discrepancies greater than $200		48,711	44,381	4,330
	Total %	14.0	12.7	1.2
	Column %		15.4	7.0
$2001 or more		958	916	42
	Total %	.3	.3	.0
	Column %		.3	.1
$1001 to $2000		4,206	3,854	352
	Total %	1.2	1.1	.1
	Column %		1.3	.6
$501 to $1000		18,729	17,562	1,167
	Total %	5.3	5.0	.3
	Column %		6.1	1.9
$201 to $500		24,818	22,049	2,769
	Total %	7.1	6.3	.8
	Column %		7.6	4.5
± $200		262,150	211,912	50,238
	Total %	75.0	60.6	14.4
	Column %		73.5	81.9
-$201 to -$500		26,361	20,759	5,602
	Total %	7.5	6.0	1.6
	Column %		7.2	9.1
-$501 to -$1000		9,791	8,766	1,025
	Total %	2.8	2.5	.3
			3.0	1.7
-$1001 to -$2000		2,137	2,006	131
	Total %	.6	.6	.0
	Column %		.7	.2
-$2000 or less		335	320	15
	Total %	.1	.1	.0
	Column %		.1	.0
Total Negative less than -$200		38,624	31,851	6,773
	Total %	11.0	9.1	2.0
	Column %		11.0	11.0
TOTAL MATCHED GROUP		349,485	288,144	61,341
	Total %		82.4	17.5

APPENDIX M

INELIGIBLE APPLICANTS
TAXES PAID DISCREPANCIES BY DEPENDENCY STATUS

		BEOG REPORTED DEPENDENCY STATUS		
		TOTAL	DEPENDENT	INDEPENDENT
Total Positive Discrepancies greater than $200	Total %	41,868	38,006	3,862
	Total %	12.6	11.4	1.2
	Column %		13.2	8.9
$2001 or more		1,860	1,822	38
	Total %	.6	.5	.0
	Column %		.6	.1
$1001 to $2000		5,000	4,612	388
	Total %	1.5	1.4	.1
	Column %		1.6	.9
$501 to $1000		21,232	20,205	1,027
	Total %	6.4	6.1	.3
	Column %		7.0	2.4
$201 to $500		13,776	11,367	2,409
	Total %	4.1	3.4	.7
	Column %		3.9	5.6
± $200		261,863	229,691	32,172
	Total %	78.9	69.2	9.7
			79.6	74.4
-$201 to -$500		15,369	9,867	5,502
	Total %	4.6	3.0	1.6
	Column %		3.4	12.7
-$501 to -$1000		8,240	7.036	1,204
	Total %	2.5	2.1	.4
	Column %		2.4	2.8
-$1001 to -$2000		3,296	2,902	394
	Total %	1.0	.9	.1
	Column %		1.0	.9
-$200 or less		1,010	898	112
	Total %	.3	.3	.0
	Column %		.3	.2
Total Negative less than -$200		27,915	20,703	7,212
	Total %	8.4	6.2	2.2
	Column %		7.2	16.7
TOTAL MATCHED GROUP		331,646	288,400	43,246
	Total %		87.0	13.0

APPENDIX N

ELIGIBLE APPLICANTS
HOUSEHOLD SIZE DISCREPANCIES BY DEPENDENCY STATUS

		BEOG REPORTED DEPENDENCY STATUS		
		TOTAL	DEPENDENT	INDEPENDENT
Total Positive Discrepancies greater than +1		2,893	2,355	538
	Total%	.9	.7	.2
	Column %		.8	1.2
+6 or more		53	35	18
	Total %	.0	.0	.0
	Column %		.0	.0
4 to 5		174	134	40
	Total %	.0	.0	.0
	Column %		.0	.1
2 to 3		2,666	2,186	480
	Total %	.8	.7	.1
	Column %		.8	1.1
-1 to +1		280,390	239,830	40,560
	Total %	87.5	74.8	12.6
	Column %		86.9	90.8
-2 to -3		28,287	25,438	2,849
	Total %	8.8	7.9	.9
	Column %		9.2	6.4
-4 to -5		6,296	5,814	482
	Total %	2.0	1.8	.1
	Column %		2.1	1.1
-6 or less		2,602	2,341	261
	Total %	.8	.7	.1
	Column %		.8	.6
Total Negative less than -1		37,185	33,593	3,592
	Total %	11.6	10.5	1.1
	Column %		12.2	8.0
TOTAL MATCHED GROUP		320,468	275,778	44,690
	Total %		86.0	13.9

APPENDIX O

INELIGIBLE APPLICANTS
HOUSEHOLD SIZE DISCREPANCIES BY DEPENDENCY STATUS

		BEOG REPORTED DEPENDENCY STATUS		
		TOTAL	DEPENDENT	INDEPENDENT
Total Postive Discrepancies greater than +1	Total %	1,443	1,005	438
		.4	.3	.1
	Column %		.3	1.2
+6 or more		59	59	-
	Total %	.0	.0	
	Column %		.0	
+4 to +5		41	-	41
	Total %	.0		.0
	Column %			.1
+2 to +3		1,343	946	397
	Total %	.4	.3	.1
	Column %		.3	1.0
+1 to -1		309,377	273,809	35,568
	Total %	96.1	85.0	11.0
	Column %		96.0	97.2
-2 to -3		9,775	9,249	526
	Total %	3.0	2.9	.2
	Column %		3.2	1.4
-4 to -5		835	821	14
	Total %	.2	.2	.0
	Column %		.3	.0
-5 or less		496	469	27
	Total %	.1	.1	.0
	Column %	.	.2	.1
Total Negative less than -1		11,106	10,539	567
	Total %	3.4	3.3	.2
	Column %		3.7	1.5
TOTAL MATCHED GROUP		321,926	285,353	36,573
	Total %		88.6	11.3

APPENDIX P

ELIGIBLE APPLICANTS
IMPACT ON ELIGIBILITY INDEX BY IRS DATA SUBSTITUTED FOR BEOG DATA

		TOTAL ADJUSTED GROSS INCOME SUBSTITUTIONS	TOTAL ADJUSTED GROSS INCOME AND TAXES PAID SUBSTITUTIONS	TOTAL ADJUSTED GROSS INCOME, TAXES PAID AND HOUSEHOLD SIZE SUBSTITUTIONS
Total Positive Discrepencies greater than +200		40,032	42,357	84,766
	Total %	11.4	12.1	24.2
+801 and Over		17,382	16,416	33,857
	Total %	5.0	4.7	9.7
+601 to +800		4,821	5,213	9,464
	Total %	1.4	1.5	2.7
+401 to +600		7,028	7,321	15,342
	Total %	2.0	2.1	4.4
+201 to +400		10,801	13,407	26,103
	Total %	3.1	3.8	7.5
±200		301,298	298,685	255,889
	Total %	86.2	85.4	73.2
-200 to -400		3,787	4,332	4,821
	Total %	1.1	1.2	1.4
-401 to -600		2,079	1,889	1,981
	Total %	.6	.5	.6
-601 to -800		1,180	1,145	1,116
	Total %	.3	.3	.3
-801 and less		1,161	1,129	964
	Total %	.3	.3	.3
Total negatives less than -200		8,207	8,495	8,882
		2.3	2.4	2.5
TOTAL MATCHED GROUP		349,537	349,537	349,537